The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLIX. CHICAGO, ILLINOIS, OCTOBER 5, 1907. No. 14.

Original Articles

THE PHYSIOLOGY OF THE THYROID GLAND IN ITS RELATION TO EXOPHTHALMIC GOITER.*

S. P. BEEBE, M.D.

NEW YORK CITY.

The investigations of the last twenty years have given to the thyroid gland a physiologic importance of the first order. So enthusiastic have some observers become in their belief in its primal position in physiology and also, on the part of a few, in therapeutics, that one is almost tempted to compare its supposed potency to the famed fountain of eternal youth whose magic healing and rejuvenating properties was the hope of the aged, infirm explorer. I must confess myself as among those who share the belief that the thyroid is a true gland, whose proper functioning plays such a part in the physiologic rhythm of the body that it stands very near to, if, indeed, not in, the list of viscera to which the term vital is properly applied. I share also in the belief that the thyroid proteids have a wide range of beneficial therapeutic activity, and yet I must, in the beginning of this discussion, call attention to how little scientific knowledge we have of the real significance of the gland and its mode of functioning, and to how large a degree our knowledge is the plainest empiricism.

We know that complete removal of the thyroid apparatus, i. e., thyroid and parathyroid, leads in most species of mammals to a fatal issue in the majority of cases. We may now safely conclude that such a result is due wholly to the removal of the glands and not to a traumatic injury of the nerves in anatomic proximity to the gland. Death from such a complete operation is generally sudden and follows a varying period of severe tetanic convulsions. I think that as a result of the experimental work of the past ten years we may go further and state that the thyroid apparatus is complex and has two well differentiated histologic structures, thyroid and parathyroid, and we have good reasons for believing that the different histologic structure corresponds to a different function. Removal of the thyroid alone is followed in most cases by a cachexia, which may in large part be relieved by the administration of thyroid substance. Removal of parathyroids, if complete, is followed by an acute fatal tetany which supervenes in a few hours or a few days.

During the last few months I have carried out some further experiments on this line which give additional evidence of their different function. The experiments have in all cases been made on dogs. The acute tetany has been induced by operative removal of the parathyroid glands. While the animal was in severe convulsion, a hypodermic injection of beef parathyroid nucleoproteid has been given with the result that in from thirty minutes to two hours nearly all the animals have temporarily recovered a normal condition. The improved condition does not last, however, for muscular twitchings begin again in from 24 to 60 hours, and the animal rapidly passes into a tetanic condition. Another injection of the parathyroid nucleoproteid a second time will relieve the animal. The whole procedure may be repeated a third time, but we have not thus far succeeded in keeping an animal alive longer than three weeks after such an operation, but we can nearly always prevent death in the acute tetany. We have some evidence that the convulsions following the operation are due to a toxic condition of the blood, for if animals are fasted for a few days or if they are fed on meat-free diet the convulsions are less severe and appear later than they do if meat is given. Severe convulsions can be brought about in two or three hours by giving an operated animal a heavy feeding of meat. MacCallum's experiments have shown that bleeding the animal in tetany and infusing with normal saline will likewise relieve the convulsions. Further, the blood of an animal in tetany was found to be very toxic to an operated animal before enough time has elapsed for the animal to have tetany from its own operation. The globulin from the parathyroid has thus far failed to relieve the symptom, a fact which indicates a difference in chemistry from the thyroid, as in the latter gland the peculiar iodin group is in combination with the globulin and is, therefore, the proteid of particular physiologic activity.

The older experiments did not differentiate between thyroid and parathyroid, so that the acute tetany following the complete operation has been by them ascribed to the thyroid insufficiency. There are observations on record of relieving the acute symptoms by large doses, 4 to 5 grams, of iodothyrin per day. Such doses are far beyond the limits of the physiologic and are not to be compared to the very small amount of parathyroid-nucleoproteid required to do the same thing.

The observations on the effect of operative removal of the glands and on the administration of various components of the glands to animals operated on and to normal animals constitute the most important known facts about the physiology of these structures. And the facts are briefly as follows:

1. Removal of the thyroid causes cachexia thyreopriva, the symptoms of which may in large part be alleviated by administration of thyroid preparations. Thyroid extracts owe their activity largely to the organic iodin group therein contained.

2. Removal of the parathyroids is followed by an acute tetany. It is on the above observations that all the

* Read in the joint session of the Sections on Practice of Medicine, Surgery and Anatomy, and Pathology and Physiology, of the American Medical Association, at the Fifty-eighth annual session, Atlantic City, June, 1907.

* From the Loomis Laboratory, Department of Experimental Pathology of Cornell University Medical College.

interesting and suggestive theories useful in the physiologic and therapeutic value of the glands have been founded. Some of these theories have sufficient dignity to command serious respect, but in many of them there is a lack of regard for the fundamentals.

It is a well-authenticated fact that thyroid feeding stimulates nitrogenous metabolism, and it may be that such a stimulation is accompanied by a heightened oxydative capacity of the organism by which toxic products of metabolism are rendered harmless. Hunt has recently furnished the first experimental demonstration of the detoxicating action of thyroid by showing that mice fed with thyroid preparations are able to stand larger doses of acetonitrile without fatal effect than control animals. The beneficial effects in these experiments are not to be ascribed to a direct chemical union of thyroid with acetonitrile, but rather through the metabolic stimulation which the gland extract caused. Although the detoxication theory of thyroid function has very little direct experimental evidence to support it, there is some empiric clinical evidence in its favor and it has been used by Moebius as the foundation of his treatment of exophthalmic goiter. The blood of thyroidectomized animals contains a somewhat different distribution of proteids than is found normally, in that there may be an increase in the ratio of globulin and a diminution in the hemoglobin, but there is little experimental ground for supposing that the blood of thyroidectomized sheep contains a toxin, and there is absolutely no reason to believe that this toxin, if it does exist, can combine in quantitative chemical fashion with human thyroid secretion. The supposed mechanism of this therapy is purely hypothetical and is without any analogy in known physiologic action. To Moebius belongs the credit for first formulating our notions of the hypersecretion theory of exophthalmic goiter, but his means of treatment has the most empirical foundation.

A unique detoxication theory of the function of the thyroid and its rôle in exophthalmic goiter has an ardent supporter in Blum, who believes that there arises in the course of metabolism a toxic globulin which is detoxicated in the thyroid by the chemical addition of iodin. The colloid is, therefore, an excretory product and the more perfectly it is iodized the less toxic effect should it have. (According to this theory exophthalmic goiter is caused by the escape into the circulation of large quantities of this partially iodized proteid.) The theory is based principally on Blum's observation that iodin can be added to the thyreoglobulin *in vitro* with the result that its peculiar physiologic properties are completely lost. The latter observation is probably correct, but granting that it is, no conclusions worth entertaining can be drawn from it. Blum's theory contradicts the experimentally demonstrated facts that the iodized proteid from the glands is responsible for much of their physiologic activity, and the equally well demonstrated fact that the activity is proportional to the iodin contained. If potassium iodid be given to an animal there is an increase in the content of physiologically-combined iodin in the gland. Roos has shown that when the glands from animals fed with large quantities of potassium iodid are tested physiologically they show an activity proportional to their iodin content, whereas, according to Blum's theory, such glands should have less physiologic activity than the normal. The artificial iodizing of a proteid *in vitro* is a violent chemical action not to be compared to the behavior *in vivo*. We know, furthermore, that the beneficial effects of thyroid treatment in myxedema may be produced by the circulation of the organic iodin group, a fact which is directly contrary to Blum's hypothesis. His theory of thyroid function will not bear close inspection, but the cause of the exophthalmic symptoms, by an escape of large amounts of partially iodized globulin into the circulation, is identical with the belief generally held to-day. I am personally inclined to believe that one function of the gland may be a detoxication, but I do not believe that this is accomplished by a direct chemical union of the thyroid secretion with a metabolic toxin, but rather by the stimulating and regulating effect which is exerted on other viscera.

Chemical studies of the gland have demonstrated the presence of three forms of proteid, nucleoproteid, globulin and albumin, in addition to a number of the simpler cleavage products of proteid, the latter being bodies of no especial significance. The normal thyroid contains relatively little of the nucleoproteid, much globulin and a smaller amount of albumin; the parathyroid, on the other hand, contains a large amount of nucleoproteid, a very small proportion of globulin and still smaller amounts of albumin. These findings agree with what we should expect from the histology, and in each case the proteid present in greatest abundance is the one most active physiologically. Since the discovery and isolation of the organic iodin group by Baumann most of the chemical study of the gland has been directed toward that compound and the proteid of which it forms a part —thyreoglobulin. This is proper from a physiologic point of view, but from the pathology of the gland we must not fail to consider the nucleoproteid. I have had an opportunity during the past two years to separate the nucleoproteid and globulin from a large number of thyroid glands, normal, simple hyperemic, glands with marked cellular hyperplasia, simple adenoma, colloid goiter, and glands from practically all stages of exophthalmic goiter. In most of the glands from the latter condition there has been found a much larger proportion of nucleoproteid, particularly in the fatal cases. The normal conditions may be entirely reversed and the nucleoproteid be found in as great preponderance as the globulin in the normal gland. Additional confirmation of this point is found in the statements of Kocher and Aeschbacher, that when the gland is rich in phosphorus it is poor in iodin. The phosphorus comes chiefly from the cell nuclei which are much more abundant in the exophthalmic gland. Histologic evidence supports this finding, as in the late stages of exophthalmic goiter there may be found considerable cellular hyperplasia with relatively little colloid. There is practically no experimental evidence on the function of the nucleoproteid as distinct from the globulin, yet in certain pathologic conditions the former must play an important rôle and one of which we are as yet entirely ignorant.

The study of thyreoglobulin and its content of iodin has been the main chemical contribution of recent years, and it is especially to Oswald that we are indebted for much of the work since Baumann's time. Oswald has determined the content of thyreoglobulin and iodin in many normal glands and simple colloid and parenchymatous goiters. He finds in goiter a great variation in the relative and absolute amounts of globulin and iodin, but his findings may be summarized by the statement that in goiter there is a relatively large amount of globulin poor in iodin. Although he has reported only four analyses of these glands, he bases thereon his latest

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theory of the disease, viz., a flooding of the system with a globulin poor in iodin. Such a theory really means a hypersecretion of a product of less physiologic activity than the normal. If we consider, however, that normally the blood supply is so great as to permit the entire volume of blood in the body to pass through the gland fourteen times in twenty-four hours, and consider also to how great an extent this blood supply is increased in exophthalmic goiter, we must conclude that this theory means simply an excess of effective thyroid secretion in the circulation. Even though there is less iodin in the proteid than normally, there is no evidence that this indicates a change in the essential character of the proteid. There may be less activity per unit of globulin, but since there is such an increase in the number of units in circulation the conclusion of the chemical study is in favor of the hypersecretion theory. Oswald entirely ignores other proteids than the globulin, a decision which I wish to emphasize again is not satisfactorily explained. The chemical findings in colloid goiter can not be used in an argument on exophthalmic goiter, since in so many cases the nucleoproteids in these latter glands is quite as important a constituent as the globulin. Although the chemical studies indicate that in exophthalmic goiter the globulin contains proportionally less iodin, such a result does not imply a dysthyroidization as a factor in the disease, for the iodin in the proteid is a measure of a quantitative rather than a qualitative change. The clinical argument that the many types of the disease can only be explained by a dysthyroidization may have some support in the fact that nucleoproteid and globulin are found in glands of exophthalmic goiter in different ratios from those in the normal gland, but an equally probable explanation is to be found in the personal idiosyncrasy toward active proteids.

We know very little of what the thyroid secretion does when confined within physiologic limits, but if given in excess we see as a result many of those symptoms characteristic of exophthalmic goiter. The exophthalmos, tachycardia, tremor, gastrointestinal disturbance, profuse sweating, increase in temperature, rapid loss in body weight, severe mental disturbance, have all been caused experimentally in animals by overdosing with thyroid preparations. It has thus far been impossible to produce the disease experimentally, and the nearest approach has been obtained by giving an excess of thyroid extracts. There is, however, a serious error in technic in most of these experiments in that the commercial thyroid has been given in intermittent doses by stomach in most cases, but if the physiologic conditions are to be simulated a saline extract of the gland from the same animal species should be given in small, frequently repeated doses hypodermatically. Even then we are not providing the most suitable conditions, as the extract of a normal gland has a distribution of proteids somewhat different from those the diseased secretion contains. One of the most interesting experiments of this kind is that reported by Dr. Matthes, who had a patient suffering from exophthalmic goiter operated on with a curative result. Later when the patient was fed portions of his own dried gland there was an increase in the nitrogen excretion with some return of symptoms.

However, granting that, as seems probable, the hypersecretion theory offers the most satisfactory explanation of the origin of the symptoms in the disease, we as yet have no satisfactory explanation of the mechanism by which they are brought about. The tachycardia, for instance, has been variously explained, an acceptable theory to many students being that of Gley, who believes the vagus impulses are inhibited and the accelerator stimulated by the gland extracts; yet very recently some experiments on the isolated heart have indicated that the central nervous system may be in no way concerned in the matter.

The mechanism responsible for the other symptoms of the disease are in a more unsatisfactory condition than the tachycardia. The very rapid loss in weight has been repeatedly given a partial explanation by the stimulating properties which the gland extracts have, but why and how the extracts act in this manner is a subject entirely unknown to us at the present time. The metabolism of patients suffering from exophthalmic goiter has been partially studied in a number of laboratories, and as a result we know that very large amounts of nitrogen are required to maintain an equilibrium during some stages of the disease. Recently in our laboratory more complete analyses of the urine have been made by Dr. Shaffer, and the most interesting new fact which can be drawn from these studies is that the kreatinin excretion is low compared with the normal, and the lower figures always go with the more severe toxic forms of the disease. When the patient improves there is a corresponding rise in the kreatinin output. With the low kreatinin excretion there is an increased kreatin excretion. We know little of the origin of kreatinin in the body, but Dr. Shaffer has recently advanced the theory that it is a measure of the muscular efficiency; such a theory is supported in this disease by abundant clinical evidence and by the measurements of the strength of selected groups of muscles made by Dr. Frederich Muller, who has found that in patients suffering from exophthalmic goiter the muscles are no more than one-fifth to one-third as strong as in normal individuals.

There are two commonly accepted possibilities which explain the origin of the hyperactivity of the gland. First, as a result of nervous shock; second, as a compensatory hypertrophy during a toxemia.

As to the first possibility, the investigations of the last ten years have given us a fund of information concerning the remarkable control exercised by the nervous system on glandular activity. Particularly with reference to the digestive glands we have seen qualitative and quantitative changes in their activity following an apparently insignificant stimulus. We have no direct experimental evidence to indicate in how far we can apply these results to the thyroid gland, but clinically we see many instances of marked change in the activity of the gland following some profound nervous disturbance. The condition may have been latent before and first becomes evident following some severe fright or sudden sorrow. Why the effect should last beyond the stimulus which called it out we do not know. That a new habit of abnormal activity may result from a series of repeated stimuli is an hypothesis put forward to account for many instances of physiologic overwork, and it may apply here.

As to the second hypothesis, there are some histologic studies which indicate that during the infections and also during chronic toxemias the thyroid undergoes cellular hyperplasia which may serve in the nature of a compensatory hypertrophy, i. e., the additional demand for the detoxicating action of the gland results in its growth. At present we have no method of measuring the activity which the gland has either in a normal or pathologic condition and can form only the crudest no-

tions by the gross appearance and histologic structure. It is, therefore, rash to conclude that in those cases of exophthalmic goiter with no goiter there is no hyperthyreosis. There are many clinical observations that support the theory of compensatory hypertrophy, and it is the mere bulk of this evidence rather than its character which is impressive.

In conclusion I must again call attention to our dearth of knowledge of the physiology of the thyroid gland and the pressing need for systematic, careful investigation, both on the part of the laboratory worker and the clinician. Theories we must have, for it is by these that we grow, but the danger lies in accepting an attractive theory as an established fact.

THE PATHOLOGY OF EXOPHTHALMIC GOITER.*

W. G. MacCALLUM, M.D.
Associate Professor of Pathology, Johns Hopkins University.
BALTIMORE.

The symptom-complex which we know under various names as exophthalmic goiter, Graves' disease, Basedow's disease, etc., has been very extensively studied, but even yet there is not perfect unanimity of opinion as to the anatomic changes which underlie these symptoms. Nearly all writers, except certain clinicians who have not made anatomic investigations, agree that there are always changes in the thyroid, although there has been much debate as to whether these changes are constant in character or not. There are others who think that the lesions must be sought in the sympathetic system or in the central nervous system, while still others regard the disease as the result of a functional disturbance of the nervous system and do not expect to find gross anatomic changes. Other attendant lesions in the eyes, in the skin, the muscles, the digestive tract and in the lymphoid tissue and thymus have been frequently described, and organs of internal secretion other than the thyroid, such as the parathyroids, adrenals, pancreas, hypophysis, etc., have been investigated with varying results. Since Moebius put forward his idea of the fundamental relation of the thyroid to the disease, attention has been centered chiefly on that organ and it has formed the point of attack in therapeutic measures, but the other lesions must still be regarded as worthy of close study, and in this paper the changes found in a rather large series of cases will be taken up in order. It must be observed, however, that none of the changes which have been generally found and which I have found in my series have the character of primary changes. They seem in each instance to be the response or reaction to some fundamental or primary disturbance of which as yet, I think, we have no very clear notion.

Disturbances of metabolism in these cases are obvious, and these seem to be intimately connected with the fundamental activity and corresponding anatomic condition of the thyroid, but whether as cause or effect is not absolutely proved. Similarly pronounced nervous disturbances occur, the heart runs riot, the body trembles, secretions are disturbed and the mental condition and temperament are altered, but whether this is the result of chemical changes or of obscure anatomic lesions in the nervous system we are not certainly informed. Whatever vague notions we have as to the fundamental underlying cause of all these things we may discuss after describing the anatomic changes.

It has been shown by Halsted and others that if a portion of the thyroid be removed from an animal the remainder shows after some time a curious alteration, which consists essentially in the great proliferation of the epithelial cells by a process of mitosis. So great is this new production of cells that they become too numerous to be accommodated on the smooth wall of the round alveolus and the epithelial lining accordingly becomes folded in the most complicated way, each fold carrying up with it into the original lumen a supporting strand of connective tissue with blood vessels. This change in the alveolar wall is followed by a decrease in the amount of visible colloid, which loses its hyaline dense appearance and becomes pale and ragged. The whole process has been regarded by Dr. Halsted as a compensatory hypertrophy, the proliferation of the epithelium being an attempted repair of the loss of thyroid substance. A similar condition is found in a small percentage of stray dogs in Baltimore and occasionally in sheep and goats, while in certain localities, as reported by Dr. Marine, in Cleveland, in a recent paper, an enormous proportion of the stray dogs are thus affected.

What the cause of this hypertrophy can be is not perpectly clear, but Dr. Marine has observed that if these dogs be given iodids in considerable doses the alveoli again become round and filled with colloid, and Dr. Kocher tells me that the administration of iodin will prevent the development of the folded condition after the operative extirpation of part of the thyroid.

Now in exophthalmic goiter the thyroid presents an appearance practically identical with that found in these animals, and it will be my task to describe in greater detail these anatomic appearances as they occur in this disease. It is true that none of the symptoms found in exophthalmic goiter are observed in the animals operated on nor in those in which the hypertrophied condition occurs spontaneously, but still the analogy is of great interest.

The material which I have had for study consists of sixty patients, most of whom have been operated on by Dr. Halsted for the relief of symptoms more or less typically those of exophthalmic goiter, and I am much indebted to Dr. Halsted for this material. Not all of these cases presented the complete typical picture of exophthalmic goiter; some of them, as will be recounted, showed part only of the characteristic symptoms, while some were complicated by the presence of other lesions of the thyroid and other organs. It will be of interest, however, to determine in how far the anatomic changes correspond with the development of symptoms, and this can be done briefly, more exact data being obtainable from the table on the next page.

From this table it is seen that in certain cases the changes in the thyroid are very well marked and are of a characteristic type, while in others they are less easily recognizable.

The more characteristic changes may be discussed first. In most instances the thyroid is enlarged, although, as a rule, not to a great size; in some cases it is not larger than the normal or it may be actually decreased in size. At operation the superficial veins are found to be very large and easily torn and are distended with blood so that the gland has a very congested appearance. This is not striking in the excised portion, since the vessels collapse and on section the interior of

* Read in the joint session of the Sections on Practice of Medicine, Surgery and Anatomy, and Pathology and Physiology, of the American Medical Association, at the Fifty-eighth annual session, Atlantic City, June, 1907.

TABLE OF EXOPHTHALMIC GOITER CASES.

Case.	Character of symptoms.	Duration.	Character of thyroid.
W.	—Typical	6 mos.	Typical.
R.	—Indefinite		Colloid adenoma, indefinite changes.
H.	—Typical		Typical.
R.	8070.—Typical	3 yrs.	Typical.
C.	8076.—Typical	6 yrs.	Typical combined with adenoma.
H.	2894.—Typical	3 yrs.	Typical.
S.	8074.—Typical	1 yr.	Typical.
M.	8066.—Indefinite, no exoph. no nervousness	2 mos.	Normal.
S.	7142.—Typical	8 mos.	Typical.
B.	7536.—Indefinite	1 yr.	Colloid adenoma, slight hypertrophy of epithelium.
T.	5216.—Indefinite, no exoph thaimos.	3½ yrs.	Cyst with wall of hypertrophied thyroid tissue.
D.	5045.—Typical	1 yr.	Typical.
Y.	6886.—Typical	1½ yrs.	Typical.
E.	7425.—Typical		Typical.
H.	7321.—Typical	3 yrs.	Typical.
R.	7278.—Typical	1 yr.	Beginning folding in walls of large alveoli.
C.	7375.—Typical	3 mos.	Typical.
J.	6955.—Typical		Typical.
S.	7351.—Moderate	5 yrs.	Large alveoli, slight folding.
G.	7122.—Typical	2 yrs.	Large alveoli full of colloid, complicated folding.
L.	7897.—Typical	3 mos.	Typical.
F.	—Indef. goiter, nervousness	1 yr.	Beginning changes in walls of large alveoli.
S.	8071.—Indef. tachycardia	18 yrs.	Exoph. changes in adenoma, not elsewhere.
S.	8046.—Indef. exoph. tremor, no goiter.	5 yrs.	Beginning changes in walls of large alveoli.
P.	5883.—Indef. nervousness, tremor, no exoph.	1 yr.	Normal.
G.	6202.—Typical		Typical.
B.	7158.—Indef., no exoph., tremor, wasting.	2 yrs.	Beginning changes in walls of large alveoli.
T.	7212.—Indefinite, tremor only, pulse 100	Gradual	Indefinite, beginning changes.
A. I.	7953.—Typical	6 mos.	Typical.
N.	610.—Typical	2 yrs.	Typical.
T.	2775.—Typical	3 yrs.	Typical.
H.	4017.—Typical	6 mos.	Typical.
H.	4055.—Typical	2 yrs.	Typical.
R.	4170.—Typical	2 yrs.	Typical.
C.	4538.—Typical		Typical.
S.	2079.—Typical	4 yrs.	Typical.
W.	4808.—Typical	2 yrs.	Typical.
W.	5254.—Typical	2 yrs.	Typical.
D.	5334.—Typical	8½ yrs.	Typical.
B.	5335.—No exoph. goiter, tremor, tachycardia.	1 yr.	Foci of proliferation, much colloid, lymphoid hyper.
L.	5379.—Typical	9 mos.	Typical.
M.	5404.—Typical	3½ yrs.	Typical.
W.	5582.—No exoph., nervousness, tachycardia, goiter.	1 yr.	Foci of typical change, other areas normal.
S.	5634.—Indef., goiter with tremor only.	1 yr.	Colloid adenoma.
G.	5190.—Goiter 28 yrs.; exoph. symptoms 5 mos.	5 mos.	Indef. changes in old goiter.
F.	5651.—Typical	2 yrs.	Much folding in large alveoli; typical.
R.	5806.—Typical	8 mos.	Typical.
S.	5873.—Indefinite	8 mos.	Colloid adenoma.
E.	5914.—Slight symptoms	6 mos.	Slight changes in large alveoli.
M.	—Typical		Typical.
L.	5991.—Typical	13 mos.	Typical—focal.
E.	6019.—Typical, moderate	5 mos.	Typical.
W.	—Typical	5 yrs.	Typical.
H.	4744.—Typical	3 yrs.	Typical.
K.	—Typical	2 yrs.	Typical.
P.	—Typical, moderate	5 mos.	Typical.
H.	—Typical	2 yrs.	Typical.
J.	2827.—Typical	15 yrs.	Typical.

the gland tissue is rather pale. Usually the tissue is hard and rather rigid than elastic. Its normal amber red translucence gives way to a grayish opacity and the fresh cut surface, instead of being glairy or gelatinous in appearance, tends to be rather dry and granular. This varies, however, with the amount of colloid material in the alveoli, and in many advanced cases the cut surface may be still moist and give off a little glutinous material. The surface of the gland is usually somewhat nodular and rough, and this is seen to be true also of the surface, in which it is found that fine strands of fibrous tissue traverse the glandular substances, separating it into lobules.

Usually the change is diffuse throughout the whole gland, but sometimes one lobe may be much larger than the other, and in some cases the alterations described are present only in small patches here and there throughout a gland which otherwise seems nearly normal. These foci are easily distinguished by their fine grain and by their opacity from the adjacent colloid holding tissue.

Microscopically there is found the change which appears in the experimental compensatory hypertrophy. Strands of fibrous tissue run in every direction like scars through the gland and separate the tissue into lobular masses, and in these lobules the alveoli are often still separated by a fibrous tissue stroma much more abundant than in the normal gland. The alveoli are no longer rounded, full of colloid, and lined with low cubical epithelium, but are extremely irregular in size and in form. As a rule most of them are smaller than normal, while in the central part of each small lobule there are larger alveoli of very irregular outline, sending out diverticuli in every direction and encroached on by epithelial projections which extend into their lumen. With some special method of staining the connective tissue it may often be made clear that such a small lobule is probably a sort of colony in which the smaller peripheral alveoli are derived from the more centrally placed or are actually merely sections of the diverticula of the central ramifying alveolus. This alternation of large irregular alveoli with small ones ranged round them is very characteristic and evidently results, in part at least, from the separation of portions of the central cavity in the form of new alveoli.

The epithelium becomes columnar not only in the large alveoli, but in the small ones as well, and thus occupies so much space that there is but little lumen left. Indeed, the areas occupied by the small alveoli may appear almost solid, so small are their cavities and so scant the colloid. In most instances the epithelium is very regular in its form throughout and the details of its structure can be made out very clearly. The cells are plump, with a finely granular protoplasm and a sharp outline. The free surface is very sharply marked and is sometimes slightly dome-shaped. The nucleus may lie near the base or near the free end of the cell. Mitotic figures are frequently to be found. Occasionally some of the cells appear narrow and shrunken and biconcave in form, with a very deeply stained nucleus and dark red protoplasm. These are the so-called colloid cells of Langendorff, thought by him to be especially concerned in the secretion of colloid, but which seem to us rather more like the result of some degenerative process. Only rarely could the so-called *Schmelzepithel* of Hürthle be seen and then it seemed obvious that it was the effect of mechanical dislodgement and disarrangement of the cells. Similarly the extensive desquamation of the epithelial cells which one so often sees in specimens re-

moved at operation seems to be due to the considerable pinching and handling through which the specimen unavoidably passes during the operation. Nevertheless, we have met with one or two cases in which, in association with especially severe symptoms, there has been found widespread desquamation of the epithelium, probably not the result of pinching the gland, and this is regarded by some, especially by Dr. Bloodgood, as a feature associated particularly with very severe symptoms.

It is in these extreme cases that peculiar alterations of the epithelial cells are sometimes found. In several instances we have observed areas in which the epithelium was enormously swollen so as to practically obliterate the lumen of the alveolus. These large irregular cells no longer preserve the columnar form, but are shapeless masses of finely granular protoplasm which takes an intense pink stain with the eosin and in which the nuclei are also irregular in form and size and stain very deeply, almost black, with the hematoxylin. Usually one or two alveoli only show such a change in their epithelium, or there may be only a few cells of this form intercalated among others of the usual type in the alveolar wall, but sometimes over considerable areas all the alveoli are packed with such cells. Their significance is far from clear. Much more frequently there are found cells among the ordinary epithelial cells of the alveolar wall which are greatly enlarged but the protoplasm of which retains the characters seen in the rest of the cells and contains only a scant basophilic granulation. The nuclei of such cells are usually much enlarged and vesicular, with scattered chromatin granules.

The colloid varies greatly in different cases, but it seems that in most of the more severe cases it is markedly diminished in amount and altered in quality, the normal hyaline material being replaced by a very palely staining substance or by a ragged, shreddy, granular or vacuolated mass which has no longer the refractive qualities of the normal colloid. There are some cases, however, in which there is a great deal of fairly normal looking colloid, and this is especially true of those instances in which the hypertrophy of the epithelium is relatively slight: cases, that is, in which the process is apparently advanced, at least as far as the thyroid is concerned. On the other hand, when the colloid is greatly diminished one rarely fails to find severe symptoms, and when the symptoms are very indefinite or in part absent it is usual to find a good deal of colloid.

The most interesting cases in this connection, then, are those in which intense symptoms exist but in which at the same time the alveoli contain a large amount of colloid. There are at least twelve of these cases in our series, and although in some of them one may explain the existence of such large alveoli full of colloid, on the idea that the exophthalmic symptoms are associated with changes which have appeared in a gland already the seat of alterations such as are seen in a colloid goiter, still there remain many in which there is no evidence of such a previous goitrous change. From this it appears that the presence of quite abundant colloid is not inconsistent with the development of intense symptoms, although in most cases in which the symptoms are intense the colloid tends to disappear with the advance in the alterations in the gland. It is not improbable that the amount of colloid may bear a fairly constant relation to the stage of progress of the disease, and light may be thrown on this by the consideration of the tissues removed at successive operations. One can distinguish, however, different types of change in the thyroid in different cases, for while in one group the alveoli are not larger than normal, show elevation and folding of the epithelium and are full of colloid, another group with quite as intense symptoms will present thyroid tissue composed of very large alveoli full of colloid in which, nevertheless, the folding of the epithelial layer is most complicated. A third group comprises those cases usually milder in their course in which the alveoli are large and full of colloid but in which the alveolar epithelium is almost flat, except in certain foci or in portions of some of the alveolar walls where it becomes cylindrical and thrown up into folds. Several of the cases in which extirpation of the thyroid was carried out with good results for the relief of indefinite symptoms, such as the combination of goiter with tremor only or with moderate tachycardia only, showed in the thyroid abundant colloid in large alveoli which are hardly at all irregular, but nevertheless in places show areas of epithelium which has become high and cylindrical and which is beginning to project prominently into the alveolar lumen.

Finally, in a few of the cases in which the symptoms were reduced to nervousness or slight tremor with goiter, the excised tissue shows the normal structure or that of a circumscribed adenoma. There were six of these cases which should be ruled out of the series.

The focal nature of the alterations in the thyroid is especially interesting and may be recognized in some cases in the fresh cut surface of the gland by the opacity and granular surface of the altered areas which contrast with the surrounding tissue. Apparently this, too, represents a stage in the development of the lesion, and in most of the six cases which show it the symptoms had existed only a short time before the operation. Microscopically the altered areas are quite sharply demarcated from the rest and may involve a great number of alveoli or be limited to very small foci, including only a few alveoli here and there. It is difficult to understand why the lesion should appear thus in certain areas only.

In sixteen of the cases there were found on cutting through the thyroid rounded circumscribed nodules which projected above the general level and differed in consistency and general appearance from the rest of the gland. These are the adenomatous nodules which constitute a considerable proportion of ordinary goiter, and hence they are by no means peculiar nor characteristic of the changes in exophthalmic goiter. They are most commonly finely granular and opaque, occasionally flecked with yellow patches of necrosis or with hemorrhages, and on section they are seen to be composed of small round alveoli lying quite separate from one another in an abundant loose stroma and lined with cubical epithelium. In only a few of our cases did the alveoli which make up such embedded nodules show the folding and other hypertrophic changes which characterize the tissue round about, but in one case in which exophthalmic symptoms were well marked these changes were limited to the tissue forming such a circumscribed nodule. In another case the hypertrophied tissue was found to form the thick lining of a cyst.

The second type of circumscribed nodule is that which is composed of a tissue very rich in colloid and correspondingly translucent. The central part is often occupied by a cyst-like cavity filled with a greenish glutinous fluid. Such nodules show microscopically very large alveoli more or less radially arranged and distended with colloid. The amount of fibrous tissue traversing the gland varies in different cases, sometimes occurring in coarse bands that separate the tissue into lobules, while

in other cases there are, in addition, fibers which separate the individual alveoli.

In six of our cases it was possible to study the thyroid at different stages in the progress of the disease, either in tissue removed at two different operations or at autopsy in patients who died some time after the operation. No very constant results were obtained. In four of the cases, in which the intervals between the times of obtaining the two specimens were seven months, eighteen months, forty-five days and seventy-nine days, the tissues were practically identical in the two portions examined. In the fifth case, after a lapse of nine months, the tissue from the second operation showed that the epithelial cells had become greatly increased in height and the colloid rather more abundant. In the case in which the longest interval elapsed between the operations, two years and six months, the alveoli had changed from small compact almost solid masses of epithelium with inconspicuous lumen and no colloid to large ramifying spaces full of ragged colloid and lined with very high cylindrical epithelium.

Thus in these cases there is no tendency in the thyroid toward a return to the normal, nor should we expect it, since the second portion of tissue was obtained either after death in cases in which the symptoms had persisted or at an operation undertaken because of the persistent symptoms. It will be extremely interesting to investigate the thyroid in one of the cases in which amelioration or cure of the disease has followed partial excision, if opportunity ever presents itself.

In this connection, too, those cases seem important in which the symptoms of exophthalmic goiter have gradually given place to those of myxedema with atrophy of the thyroid.

In nearly all the typical cases there are scattered about, usually in connection with the fibrous strands, masses of lymphoid tissue which are sometimes large enough to be conspicuous, opaque white dots visible in the fresh specimen. In one instance in which there was a cyst the numerous lymphoid nodules shone through the wall of the cyst very distinctly. In some cases they are small and indefinite in outline and are composed of an irregular accumulation of lymphoid cells. Generally, however, they are well-formed lymphoid nodules with very distinct germinal centers, composed of concentrically-arranged cells with abundant protoplasm. It seems probable that this increase in the bulk of the lymphoid tissue, which is practically invisible in the normal gland, is part of the general increase in size of the lymphoid structures of the neck which occurs so often.

This could be studied in a few of the cases at autopsy in which it was found that the lymph glands and hemolymph glands were enlarged, especially in the neck, but also in the thorax, abdomen and retroperitoneal region. The superficial glands are usually not so much enlarged, but the lymphoid tissue in the pharynx, the tonsils and the nodules in the tongue become very conspicuous. Microscopically it is found in all these places, as in the lymphoid nodules of the thyroid itself, that there is a great increase in the lymphoid cells, but also that the germinal centers become very large and sharply outlined and contain many actively phagocytic cells. The sinuses are usually filled with wandering cells. This change in the lymphoid tissue has the appearance of being a reaction to the absorption of some poisonous or injurious material, but whether this material stirs up the thyroid also to proliferation or is itself the product of the overactive thyroid is difficult to say.

The thymus, too, has been found by nearly all investigators to be enlarged. There are not only the usual scanty remains, but the mass of tissue is frequently seen to be as large or larger than that seen in a child before retrogression has taken place. Histologically it has the same appearance as in those earlier years, and the same processes of phagocytosis are seen to be going on. The recent statements as to its epithelial nature make this change in the thymus especially interesting and deserving of more attention than has been accorded it, particularly since there have been some favorable results from the administration of thymus extract in this disease.

The parathyroid glands are sometimes to be found attached to the portion of the thyroid extirpated at operation, even when the greatest care is exercised to preserve them. In other instances they were found at autopsy, and altogether we have had the opportunity of studying them in sixteen cases. They were practically normal in all the cases. The cells of all varieties found in the normal gland were seen in these, too, in the usual proportions. In six of the cases the notes state that there was an increase in the fibrous stroma, and renewed examination of these glands shows that there is in some cases a network of scar tissue running through the tissue, just as has been seen in the thyroid in so many of these cases. Otherwise, however, the tissue in these glands seems abundant and normal. On the whole it seems improbable that the parathyroids have anything to do with the production of the symptom-complex of exophthalmic goiter when we compare these very slight anatomic lesions with the advanced changes in the thyroid.

Much attention has been devoted to the study of the cervical sympathetic ganglia and nerves, since the idea is held by many that changes in those structures are really at the bottom of the whole disease, but the results of these studies have been very unsatisfactory; some authors have described atrophy of the cells, increase in the pigment or overgrowth of connective tissue, but quite as many or more have found the ganglia perfectly normal. We have studied them carefully in two cases and have found no pathologic alterations, unless the presence of a number of shrunken deeply-stained ganglion cells in one section can be regarded as pathologic. This ganglion was fixed in formalin and the one from the other side in alcohol. In that one no such changes were found, so that I am not disposed to attach much importance to them.

Similar results have come from the anatomic studies of the central nervous system, for while in some cases atrophy or destructive lesions have been found in the corpora restiformia, and in others hemorrhages in the medulla, the majority have shown no abnormality, and at best the lesions must be regarded as extremely inconstant.

As to the hypophysis cerebri, there seems to be few recorded observations. Hämig studied it in nine cases and found it quite normal, although in several of the cases the number of chromophile cells were striking. In the one case in which we have secured the hypophysis its tissue was normal.

Of pathologic alterations in other tissues and organs so little is known and the findings are so inconstant that they may well be passed over.

On the whole, therefore, the only lesions in this dis-

ease which are palpable and constant are those of the thyroid and of the lymphoid apparatus and thymus. All of the others are so indefinite and so often completely missed that it is difficult to convince oneself that they play a primary rôle in the disease.

From what has been said it is seen that with the appearance of definite symptoms of exophthalmic goiter there is always the same change in the thyroid. In very mild and indefinite cases it may be possible to find only the beginning of this change in some part of the walls of some of the alveoli. In more severe cases in the early stages the change in the thyroid may be in foci only, while the rest remains normal, but in the more advanced cases the typical change with proliferation of the epithelium and folding of the walls of the alveoli is invariably found. None of our cases came from goiter regions, although one or two had goiters before the exophthalmic symptoms developed. Even in these it is only necessary to look far enough to find the changes described above superimposed on those of the old goiter. Sometimes in nodular goiters only the intervening tissue shows the hypertrophy well, but in other cases that of the adenomatous nodules will also show it. From this series of cases we are quite convinced that this change in the thyroid in a more or less complete development is quite constantly associated with the symptoms of exophthalmic goiter.

Now this is anatomically the change produced in compensatory hypertrophy when we excise part of the normal gland, but that compensatory hypertrophy never produces a mass of tissue in excess of the normal and no symptoms result. It is the same change, too, that we find in sheep and dogs, sometimes with very marked enlargement of the thyroid, but these animals show no definite symptoms, or if they do they are rather the symptoms of myxedema (Marine). There can not be a complete analogy, then, between these lesions. In exophthalmic goiter there must be something more than the mere hypertrophy of the thyroid, either in the nature of its secretion or in some other factor quite aside from the thyroid. Nevertheless it is certain enough that the thyroid is hypertrophied and the current opinion is that it is functionally overactive and producing an excess of secretion. This, however, remains to be directly proven, and Oswald, in opposition to the general view, believes that we really have there a condition of thyroid insufficiency, since the gland is often nearly empty of colloid and contains relatively little iodin-holding secretion. But the removal of part of the thyroid improves the symptoms of the disease, and the administration of thyroid extract makes them worse, so that we are almost forced to the belief that the excessive activity of the thyroid is at fault.

The great question seems to remain: if the gland is hypertrophied and overactive, what has caused this hypertrophy? The symptoms of exophthalmic goiter are so like those of artificial thyroidism that it is fairly easy to believe that there is this excessive activity and that the other symptoms depend on the outpouring from the thyroid. But we have no examples elsewhere of the spontaneous hypertrophy and overactivity of an organ to the detriment of the rest of the body. Always it is a work hypertrophy or compensatory hypertrophy, but here the inconsistency appears that when you excise part of this hypertrophied gland the symptoms often disappear.

Is it possible that the fundamental underlying cause is some infection, such as influenza, which, reaching the thyroid through the pharynx, sets up such a non-suppurative thyroiditis as has been described by de Quervain, destroying many of the cells and leaving scars through the gland, after which the remainder becomes hypertrophied and its activities perverted? Gilbert and Castaigne, Reinhold, Breuer and others describe such a course of events, and, indeed, a history of pharyngitis or grippe is very common as a forerunner of this disease. It is still rather hard to comprehend the overstepping of the normal to such an extent in the process of compensatory regeneration, and the production of a harmful organ by a mechanism which usually restores to normal with such precision.

The relation of iodin to this disease is interesting, for while in a normal person the symptoms of iodism do not very closely resemble those of exophthalmic goiter, it is claimed by Breuer that in cases of exophthalmic goiter the symptoms may be made much worse or latent symptoms called out by administration of iodids.

Further, the suggestion may be offered that it is possible, since some of the symptoms are generally referred to disturbances of function of the cervical sympathetic system, that the vasoconstrictor influence of those ganglia over the thyroid may be diminished and that a consequent hyperemia of the gland may finally bring about an overactivity. Attempts to study this experimentally by the isolation of the thyroid from all nervous connections, even those which are closely bound up with the vessels, have so far led to no result.

Since the most palpable and constant change in this disease is after all in the thyroid, it seems that our efforts to explain the disease must start with the explanation of the disturbances in structure and function of the thyroid. We must know definitely whether it is pouring out an excessive secretion into the circulation; we must be able to recognize that secretion and estimate its amount and its toxic character. Then we must learn surely whether the thyroid is doing this independently or whether it is in response to some disturbance in metabolism elsewhere. It seems possible even that it might be in response to a demand only for some other associated substance which brings with it the toxic substance, so that while the thyroid hypertrophies to meet a justifiable demand it incidentally produces a noxious substance in excess.

At all events, we must learn the underlying cause of these changes and not be content with discovering which organ is most disturbed, for only in that way can a perfectly rational therapy be devised.

[THE REMAINDER OF THE SYMPOSIUM ON GOITER, CONSISTING OF THE PAPERS OF DRS. BARKER, PREBLE AND KOCHER, AND THE DISCUSSION, WILL APPEAR NEXT WEEK.]

Treatment of Pruritus Ani.—B. Foster, in the *St. Paul Medical Journal*, summarizes the principles of treatment of this condition as follows: Search the rectum carefully for fissures, ulcers or other abnormalities, and treat them. Dilate the sphincter ani. Keep the bowels open and clean the anus carefully with soft linen or cotton after defecation. Examine the urine, especially for sugar. Treat any constitutional condition that may exist, but do not use narcotics internally, if possible to avoid them. Use such local remedies as may be indicated, the best being nitrate of silver, carbolic acid, liquor potassæ and soothing lotions, occasionally soothing ointments. The *x*-ray and the high-frequency current are often useful, and, in cases which resist all other forms of treatment, surgery may be justifiable.

WHAT SHOULD BE THE RELATIONS OF PHARMACISTS AND PHYSICIANS?*

J. N. McCORMACK, M.D., LL.D.
BOWLING GREEN, KY.

Hailing from the state which gave Lawrence Smith, Shaffer and C. Lewis Deihl to the pharmaceutical world, I feel it to be a distinguished honor to present myself as a fraternal delegate from the American Medical Association to this, the leading pharmaceutical organization in this country, and to be the bearer to you of its most cordial greetings. But this does not include all of my mission; I am here in a dual capacity, with duties more important and delicate, as I understand them, than the pleasant and more or less perfunctory ones of a mere fraternal delegate. I am here by special invitation of your secretary to explain and to give the reasons for certain criticisms of your fraternity embraced in my official report to our Association at its recent meeting in Atlantic City. In other words, as he so kindly and courtesly expresses it, "For a heart-to-heart talk over matters of great interest to both vocations," on the subjects indicated in the above title.

In accepting this invitation I decided to do so in the spirit in which it was offered and to talk, and to ask you to talk in return, frankly and fearlessly, of flagrant evils which have grown up in and between our profession to such an extent as not only seriously to threaten our relations with each other but greatly to endanger the well-being of the people. The proper performance of the responsible task I have set for myself requires a little personal history, in which I am sure you will indulge me. For twenty-nine years I have been a member, and for twenty-four years secretary and executive officer, of the State Board of Health, which is also the State Board of Medical Examiners of Kentucky. During all of these years I have had direct charge of all health and medical legislation in the state, spending much of the time embraced in each session of the general assembly at the capital. For the past seven years I have been chairman of the committee on organization of the American Medical Association, and in that capacity have gone from state to state, and in many of them from county to county, until almost the entire Union has been covered, discussing with medical and lay audiences questions involved in the great reforms on which my profession has so earnestly entered. In the course of this work I have visited many state capitals and had opportunity to address a number of legislatures in the interest of these reforms. As a part of this work I have made a careful study of the relations and feelings of the physicians and pharmacists toward each other in every section of the country and have noted the marked change in these relations in many sections in recent years. I spent several months of last year in a similar study in some of the European countries, and it was in the light of this vast observation and experience that I reported to my Association the conclusions and opinions on one phase of the subject only which attracted the attention of your officers and gives me the opportunity to be with you.

In this connection, speaking of that class of the proprietary people and their allies who are "undesirable citizens," and their adroit crusade against the wonderful drug reform to which the medical profession and country have been awakened, largely through lay efforts, I said:

While these misrepresentations have done so little harm with the membership, I am convinced that they have kept many from joining the societies and have crippled our usefulness in many other ways. As one evidence of this, they have arrayed the retail druggists against us almost solidly in most states. At every capital visited I have found a strong force of drug men working under the direction of expert lobbyists representing the National Association of Retail Druggists, backed by the proprietary interests, against the legislation proposed by the profession in the interest of pure food and drugs, with all of their expenses borne by that body. In every instance an attempt was being systematically and often successfully made to confuse the minds of legislators by the introduction of decoy bills prepared by their central bureau, but cunningly altered as to wording in the various states to hide their common origin. It was found in every instance that legislators were almost literally inundated by letters and telegrams from their drug and newspaper constituents in the interest of these now fully exposed and recognized frauds. As a real friend of the pharmacists, one who has always been wedded to the prescription method of dispensing, the discovery of this almost universal ascendency of the quack interests over this trade was a painful one. It evidently means that we have come to the parting of the ways with the druggists, and must arrange to dispense for ourselves, as is being done in other countries, unless prompt steps are taken in a comprehensive way to restore proper relations with them.

The above was by no means intended to apply to all pharmacists. A respectable minority was found in all the states who could not be enlisted under the banner of Colonel Duble and other peripatetic philanthropists, or induced to join in their efforts to debauch and mislead legislators. You will note also that I hold a large element of our own press and people responsible for many of these abuses. This will be duly enlarged on and emphasized later, in justice to all concerned. While these criticisms probably do not apply to any member of your great Association, they form a very small part of what must be said if the whole truth is to be told about the methods of the rank and file of the drug trade over this country. As a part of their regular every-day business druggists of the class of which I am speaking sell to innocent men and women, and even for helpless children, who are trying to obtain relief from disease, habit-producing liquors and drugs which they can not but know will work a ruin compared with which death would be a mercy. For the benefit of those who have been made habitués by the small and insidious doses so persistently urged as harmless before legislative committees and elsewhere, whisky cures composed chiefly of whisky and morphin cures almost wholly of morphin, and other things equally nefarious, known as such to all except those who will not see and hear, are advertised daily in the small and often in the large cities all over the country over the personal guarantee and assurance of cure of those purporting to be reputable pharmacists. As an evidence of the results of this business, which is impossible without the complicity of druggists, on a recent visit to the State Inebriate Asylum of Iowa I was informed that the official records of that institution showed that over 75 per cent. of all who had ever been treated there owed their condition to these habit-producing nostrums, in many instances the particular one which brought about their downfall being named. If time permitted, similar testimony might be furnished from other institutions, and almost without limit from the experience of private practitioners, especially of the debauchment of unsuspecting women and children from this cause.

* Read before the American Pharmaceutical Association, New York, Sept. 7, 1907.

Aside from the victims of this infamy there are three factors now fully recognized as essential to its continued existence. These are the proprietor or manufacturer, the public and religious press as advertising mediums, and the drug trade. It could not thrive for six months without the complicity of all three of these agencies. And yet, so fully has the commercial idea, the lust for wealth without regard for the methods necessary to obtain it, taken possession of our people, a large majority of the personnel of these three classes is made up of men occupying the most exalted positions in the business, social and religious world. Now, I am one of the old-fashioned men who believe that ill-gotten wealth is always a curse, that "Whatsoever a man soweth, that shall he also reap," and that this is especially true of druggists in connection with this business. Only one of the many instances within my own knowledge to prove this will be given. Of two personal friends of the the highest character and standing, who enjoyed a large trade in this line and became wealthy, one buried his wife, and the other two accomplished sons respectively as morphin, whisky and cocain victims. In another connection I shall attempt to show that of the three classes named your people profit least by the nostrum business, and that the legitimate drug trade would be far better off financially without it, but what I am trying now to convince you is that the whole thing is morally wrong and that, profit or no profit, you can not afford longer to permit the great vocation you so ably represent to be a party to it or to stand arrayed against legitimate legislation for the mitigation of this evil.

For lack of time I shall only say on the general subject of counter-prescribing that, while it is under the condemnation of both professions as indefensible, I find it distinctly embraced in the teaching course and examinations of some of your leading pharmaceutical colleges for the past year. It is my intention, however, to deal frankly with one phase of this question which, properly understood, is of almost national importance. I refer, of course, to the treatment of venereal diseases, "The Great Black Plague," by druggists and their boy clerks. Gonorrhea, especially, is now recognized as one of our most important and, if neglected or improperly treated at the outset, one of the most incurable of diseases, and yet my investigations convince me that in most sections of the country in from 50 to 75 per cent. of cases the primary treatment is taken in drug stores at the hands of those who would not seriously pretend to have any training or qualification for a work which often taxes the highest capacity of the specialist. Often this gravest of diseases is made a matter of sport, and the young man, having faith in what has been done for him, but usually dangerous as long as he lives, marries and immediately infects some trusting, pure woman. As to the importance of all this it is only necessary to say that it is estimated by our best surgeons that between 50 and 75 per cent. of the operative work done for women in this country every year is due to this disease, and my investigations show that very much of this can be traced to this phase of drug store practice. I am discussing this subject frankly before medical and mixed lay audiences every day, always giving the druggists an opportunity to respond, and I am insisting that this practice shall be broken up regardless of how they may feel about the other reforms proposed. Of the evils of substitution and kindred matters I may have your permission to speak at another time.

This is only one side of the shield. The other relates to the sins of omission and commission of the medical profession in this connection, and it is not a pleasant picture. Druggists tell me in many sections that they do not get a "square deal" from their physicians, and this complaint is often confirmed by my inquiries. This is partially due to the gradual drifting apart and coincident misunderstanding of the two vocations, to which I shall refer later on, and still more to the loose and hazy teaching of pharmacology and therapeutics in most of our medical schools before the recent awakening. In consequence of this lack of training a large element of our profession became easy marks for the pleasant and plausible detail men, and, through their joint efforts, the shelves of the druggists and the stomachs of the patients were overloaded with preparations which recent developments have shown to be not only of doubtful, but often of harmful composition. In the same way, and from the same causes, many physicians became dispensers of pills, tablets, triturates and other preparations of doubtful composition, short in weight, and otherwise so defective as to have little or no therapeutic value, or to be entirely misleading. Probilin, coming to us with a foreign mark but unknown in the country of its nativity, approved and exploited by one of our leading firms of manufacturing chemists, which was so recently exposed by the Council on Pharmacy and Chemistry, is only one of many instances which might be cited in this connection. In the name of honesty and decency in medical and pharmaceutical practice, and still more in the interest of afflicted humanity, for whose benefit we all exist, I insist that the continuance of such evils as I have referred to in both professions and all similar ones should be made impossible.

For I contend that we, and especially the leaders of our organizations, are wholly responsible wherever quackery, incompetency or other frauds or impositions exist in either vocation, as the medical and pharmacy laws on the statute books of every state were put there largely by our respective professions. Unfortunately the people have taken only too little interest in either their enactment or enforcement. If they are so defective as to protect neither the health and lives of the people or our good names, it was because we did not possess the knowledge which would enable us to draw them correctly or because we were unable to secure such concert of action as would secure their passage as drawn and their enforcement afterward. And there has been a sad lack of co-ordination between the states as to all of this legislation. There should be model bills drawn by some central body covering the several phases of the work in the true scientific as distinguished from an improper commercial spirit, which could be easily adopted to the condition and needs of any state. No less important, the public sentiment should be developed and fostered which would make the laws effective when passed.

In our profession we are making rapid advances in all of these matters. Starting seven years ago with a most pleasant system to look on, but which was practically like creation at its dawn, "without form or void," we have built up probably the most coherent, powerful, harmonious medical organization which has ever existed. We have local societies in over 2,400 of the 2,830 counties in the United States, with a total membership which has grown from about 16,000 to over 70,000. Small legislative, really representative and deliberative, bodies look after all matters at the state and national meetings in a way and to an extent which was never possible be-

fore. While material interests are not neglected, I am proud to be able to say that the true scientific spirit and the welfare of the people predominate in everything. As one of the results in the way of legislation, in almost every state graduation from a recognized medical college and an examination are required of every one desiring to enter on the practice of medicine, as should be the case in pharmacy. A medical degree has not meant all that it should in the past, but this condition is also being reached. Within the past two years our Council on Medical Education, the members of which are serving as a labor of love, has officially visited, inspected and reported on the teaching facilities, equipment and methods of every medical school in this country. Such a report from such a source means that it is only a question of a little time until no diploma will be recognized as a basis for examination in any state which is not issued from a school maintaining a uniformly recognized standard. Of the work of the Council on Pharmacy and Chemistry, most of the members of which are distinguished members of this body, likewise serving gratuitously, it is not necessary that I should say much in this presence. Recognizing that the results of its labors are of incalculable value to honest medicine and pharmacy, the Council, and our great JOURNAL, which is its mouthpiece, have back of them our solid profession, as we believe is justly due to both the Council and the *Bulletin* of this association not only from you but from all reputable pharmacists.

Much as has been accomplished, we recognize not only that our work is in its infancy, but that the results of much of it must be very imperfect or long delayed unless we can secure the loyal, cordial cooperation of the rank and file of your people. In the light of what has already been said, we also feel that a stage has been reached in our relations which will not be much longer endured by either side, and that we should at least try soon to reach an understanding if we are not to drift as entirely apart as has occurred in other countries. I earnestly believe that we can and ought to get together. Along all the lines I am discussing, from my standpoint, there is little room for difference of opinion. As to them we both exist primarily for a common, altruistic purpose, the relief of suffering humanity and, only secondarily, for our own benefit. As is true of all the other learned professions, usefulness, honors, even a modest support may be ours, but legitimately followed, they are not gainful pursuits. If there be those who have entered our ranks with great fortunes as their incentive they can not make their exit too soon for their own purposes or for the sake of our good name. It is this class, with the mercenary rather than scientific and humanitarian instincts, physicians and pharmacists only in name, who head our great quack institutions, and your great nostrum enterprises, and the medical journals which thrive by exploiting the latter. With the proper conception of duty the time has come when no physician can afford to prescribe and no pharmacist can afford to dispense any preparation of which he does not know the composition and purity. This means that we must get back to the Pharmacopeia and the National Formulary and have at least as much care of what we furnish for the sick as the soldier does for the condition of his ammunition, and that each prescription is to be adapted to the individual case. This does not in the least interfere with the use of preparations of known composition and value, proprietary or otherwise, which can be better made in large quantities, but it will put an end forever to all nostrums, whether simply valueless, misleading or dangerous. Not only are we urging this kind of instruction on our schools for the benefit of the future physician, but we are making it a prominent feature of the postgraduate course which is being put before every county society in the United States.

I feel sure that no argument is required to induce such a membership as yours to appreciate such a work, but I am here to plead with you to do much more than this—to take an active, aggressive, a leading part in it. I believe that there should be such an effective alliance, offensive and defensive, between this organization and the American Medical Association as will insure only pure drugs for the sick people of this country. This would require joint action, through committees and otherwise, in framing, passing and enforcing the necessary legislation, and, in what is even more important, as a necessary premise for all of this, such a campaign of education systematically conducted over the entire country as will give the professional and public sentiment without which all such legislation is almost worse than useless. Aside from the moral wrong involved in the nostrum business, about which enough has been said, it should be urged on the rank and file of the drug trade that it has only enriched the manufacturers and has always been an unprofitable curse to most of them. Thanks to *Collier's*, Mr. Bok and *Everybody's*, the more intelligent portion of the public and a most important element of the lay and religious press are already with us, we have about finished our contest with the venal and misled medical press, and the time is most auspicious for the inauguration of such a campaign.

I am by no means sure that I am saying all of this in the best way. I fully appreciate the difficulties of my position, especially in that I have so little information as to the personal viewpoint of your members as to these matters. However faulty may be my presentation of the subject, and the plainness and bluntness of my speaking, I beg to assure you of the kindliness of my intentions and of the earnestness of the desire of those I represent to be in such harmony with you that we may work in hearty cooperation. We want you to help us make the Council on Pharmacy and Chemistry and the Section on Pharmacology and Therapeutics of the American Medical Association, or some other agencies of this kind, centers in and around which the two professions may gather for these purposes. At best the task will not be an easy one. Nearly every thing worth doing in this world is difficult. The interests against which we will contend are strongly entrenched, they have great wealth, and experience has shown that they are little troubled with scruples. Still, the spirit of reform is abroad in the land, and our cause is so just and the evils so easily exposed that, with two such professions as ours organized as they should and their hands joined in the work, the final result could not be a matter of doubt.

Neurasthenia.—G. L. Walton, in the *Journal of Nervous and Mental Diseases*, states that the term neurasthenia, though convenient, like "nervous prostration," for popular use, is inaccurate, misleading and unsatisfactory, and can be discarded so far as scientific records are concerned. Nor, he asserts, has any material gain been made by substituting for it psychasthenia or phrenasthenia. The majority of the cases so classed partake so far of the various morbid mental states peculiar to the ideo-obsessive that they are best included under the general designation psychoneurosis or obsessive psychosis.

EXAMINATION OF THE GYNECOLOGIC PATIENT FOR DIAGNOSIS.*

AUGUSTIN H. GOELET, M.D.
NEW YORK.

Examination for the purpose of making a gynecologic diagnosis comprises, or should comprise, more than is ordinarily realized by many who undertake it. As a rule, it is too casual to be thorough or accurate, and in consequence associated conditions, often of relative importance, are overlooked and disregarded.

In presenting this subject for your consideration, I have no idea that I shall offer anything new, nor yet anything with which you are not already familiar. My object is chiefly to direct attention to some salient features of these examinations that are sometimes disregarded and to emphasize the importance of certain apparently unimportant details that are essential for accurate and complete diagnosis of these conditions.

HISTORY OF THE PATIENT.

The history[1] and manner of taking it is of much importance. It may be brief, but should be complete and thorough, the essential points bearing on the condition being brought out conspicuously, and it should be preserved for future reference. Very much information bearing on and aiding the diagnosis may thus be obtained, but it would be unwise to permit an opinion formed from the history or otherwise beforehand to influence us in making a diagnosis. In other words, the examination should not be instituted with a fixed opinion formed beforehand as to what will be discovered, for important findings may thus be ignored. The history should include everything that may have any bearing on the patient's condition, and one of the most essential points is to ascertain the most conspicuous symptom or symptoms, or the chief complaint which has caused the patient to seek relief, and this should be carefully recorded and underlined. Years after, if she returns with the statement that she is still suffering with the same disease of which she was supposed to have been cured, she may be convinced to the contrary by referring to her history.

EXAMINATION OF THE BLOOD.

Examination of the blood may sometimes be utilized to advantage as an aid to gynecologic diagnosis. It is chiefly useful in determining the existence of anemias and their degree, the presence or absence of malarial infection, and more especially in revealing leucocytosis as an evidence of inflammatory conditions that may be suspected. It may also be employed possibly in the differential diagnosis of pus collections that may otherwise only be suspected.

It is questionable if examination of blood would aid in the diagnosing of malignant disease except that a persistent leucocytosis in a suspected case might confirm it.

To go more extensively into the possibilities of blood examination as an aid to the diagnosis of extraneous conditions, though they may have some bearing on gynecologic states, would be beyond the scope of this paper.

EXAMINATION OF THE URINE.

No gynecologic examination would be complete without careful microscopic as well as chemical examination of the urine. This will not only aid us by determining the state of the patient's general health, but also afford an accurate diagnosis of associated disease of the urinary tract. The degree of inflammation of the bladder may thus be determined without resort to cystoscopy; likewise the presence of stone many times and also pressure on the bladder wall. Inflammation of the ureters, pelvis of the kidney and of the kidney are also revealed by this means. Expert examination is, however, essential to make this method of diagnosis effective.

The advantage of this method of diagnosis over the cystoscope is evident, since few are expert with the use of that instrument, and its use is often prohibited both through insufficient experience and because it may be objected to by the patient.

GENERAL EXAMINATION.

The physical examination of the patient should begin with palpation and percussion of the abdomen from the ensiform to the pubes, first in the erect, then in the recumbent position. (The corsets and clothing are to be removed sufficiently to expose the whole abdomen.) The advantage of palpation and percussion in both the erect and recumbent position is evident, since the position of the abdominal contents is very much changed by change of position.

This examination should include the spleen, pancreas, gall bladder, liver, kidneys and stomach, the hypogastric region, the iliac and inguinal regions and the region of the appendix in particular. In this manner unsuspected disease or enlargement of these organs or tumors in the regions mentioned may be revealed. The relation of disease of some of the above mentioned organs or their displacement and their influence on pelvic disease is too often ignored.

Percussion over the course of the colon will often afford much information. For instance, it is not unusual to find the ascending and transverse colon distended

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-eighth Annual Session, June, 1907.

1. An outline of a convenient history sheet may be interesting:

HISTORY OF THE PATIENT.

Date..... Referred by Dr.....
Name..... Address.....
Age..... Nativity.....
Single.....Married.....Years. Widow.....Years.....
Age of puberty.....Age of menopause.....
Number of children.....
Character of labors.....
Character of convalescence.....
If children were nursed and how long.....
Number of miscarriages.....
Duration of pregnancy.....
How induced and how treated.....
Nature of sickness or accident during lifetime of the patient, and date thereof.....
Menstrual history, character, duration and type at age of puberty, at time of marriage and after. If painful, at what time is pain experienced, before, during or after the flow?.....
Date of last menstruation.....
Symptoms. Constitutional or general.....
Local. Chief complaint or symptom for which patient seeks relief..
Bladder Micturition.....Diurnal.....Nocturnal.....
If painful, location of pain and its character.....
When urine was last voided.....
Bowels. Regularity or irregularity or constipation.....
Time of last evacuation.....
Physical signs. (Under this head state what is found abnormal on examination.).....
Examination of the blood. (This is to be instituted when necessary as an aid to diagnosis or whenever there is any indication therefor.).....
Examination of the urine. Chemical. Microscopic. (This should be made in case of every patient coming for diagnosis.).....
Microscopic findings in discharges from vulva, urethra, vagina and cervix.....
Diagnosis.....
Treatment. What is advised and what is decided on.....

with gas and the descending colon packed with solid feces, though the patient has declared her bowels to be empty.

Before proceeding to examine the pelvic organs the bowels and bladder should be emptied. Omission of this detail will interfere seriously with a satisfactory examination and accurate diagnosis.

It is a question whether the vaginal examination should begin with inspection or digital exploration, and this must be decided by the nature of the case and the character of the patient. If she is a young unmarried woman or a virgin, digital exploration may be instituted first because it is less embarrassing to her. If, however, she is married, or has had children, or there is reason to suspect infection, or there is a pronounced leucorrhea, the examination should begin with inspection of the vulva, introitus and the vagina through a speculum. The appearance of the vulva, the orifices of the glands of Bartholini, the urethral orifice, the vaginal walls and cervix should be especially noted and anything abnormal recorded.

Specimens of discharge from these localities should be taken and preserved for future examination under the microscope.

I wish especially to emphasize that every vulvar, urethral, vaginal or cervical discharge encountered should be investigated and its microscopic character should be known to the gynecologist under whose care the patient comes.

The condition of the clitoris should also be noted. If there is a cystocele or rectocele or laceration of the perineum it should be recorded and the degree of laceration and relaxation of the vulvar orifice should be specified. If a laceration has been repaired the fact should be noted and whether or not the result is satisfactory.

It is questionable whether digital exploration of the vagina should be preceded by a cleansing douche. If there is an infection it will be of little or no advantage to the examiner. It would be safer to use rubber gloves. Whether gloves are used or not, the hands should be thoroughly cleansed with nail brush and soap before making the examination. Clean instruments also are always imperative.

Digital exploration through the vagina is best made with one finger (the index) rather than with two. The examination will thus be less disagreeable to the patient and more satisfactory to the examiner. It is possible to reach further with one than with two fingers, if it is properly inserted, and the touch is more acute and less confusing. The right index finger should be used for palpating the right side of the uterus and the left for the left side. By employing alternate hands in this manner palpation is made with the flat front surface of the finger end, which is more natural and the touch is more acute than palpation with the side of the finger or with the hand twisted around to reach the opposite side. In addition the location of the findings subsequently is more readily remembered by recalling with which hand they were detected.

Lubrication of the finger or instruments with some good liquid soap is more satisfactory than oil or vaselin, because it is more readily removed and is less distasteful.

On inserting the finger relaxation or contraction of the vulvar orifice or vaginal walls must be noted, also if there are cicatricial or contracted bands in the vagina or about the cervix, or if the vaginal surface is smooth or the rugæ are normal.

The base of the bladder, the urethra and ureters should be palpated while the opposite hand depresses the abdomen just above the pubes.

Passing up the vagina the cervix must be located and its position in the pelvis noted; that is, whether it occupies a normal position or is forward under the base of the bladder or backward and pointing to the hollow of the sacrum, or if it is displaced to either side of the median line. Its size and condition is to be noted, whether normal in size and contour or lacerated, or if the surface is studded with distended follicles which feel like shot under the surface, and whether it is normally firm or abnormally indurated or softened.

The mobility of the uterus is next to be determined, and the degree of mobility or fixity should be noted and recorded. This is best determined by placing the index finger under the cervix and moving the uterus upward and from side to side. Normally it is freely movable up and down and moderately from side to side.

The position occupied by the fundus is then determined by manipulation with the index finger in the vagina and opposite hand on the lower abdomen, depressing it just above the pubes. The position of the fundus in relation to the other pelvic organs and to the cervix must be noted. It must be ascertained whether it occupies a normal position or is forward and resting on the bladder or is backward in the hollow of the sacrum, or whether it occupies a position either to the right or left of the median line. As a rule, these details can readily be made out by manipulation if the abdominal wall is sufficiently relaxed to permit depression. The examining finger is passed alternately up behind the cervix, in front of it, and to either side. But if the abdominal wall is rigid or unduly thick the examination is rendered more difficult. Then the fundus may usually be located by placing the point of the index finger under the cervix and forcing the uterus up against the abdominal wall, a manipulation similar to ballottement.

The size and character of the uterus should be determined, whether it is normal or thickened anteroposteriorly or laterally; or if its walls are indurated or softened, or nodular; or if there are any growths projecting from or attached to it. The position of such growths, if found, and their relation to the uterus as well as the other pelvic organs, should be definitely determined when possible.

If a displacement of the uterus is detected its character and degrees should be noted and recorded, distinction being made between a version and a flexion. It should be determined also if the displacement is reducible or if it is irreducible, fixed by adhesions or partially movable. Distinction should also be made between fixation by adhesion and exudation.

The condition of the uterosacral ligaments in particular should be ascertained so as to estimate the degree of support they afford the uterus.

The region posterior to the uterus should be carefully palpated to ascertain if it is free or occupied by a growth or an effusion or exudation. Tumors in this location are, as a rule, readily detected, but exudations involving the adnexa are often perplexing. The examiner must be careful to exclude impaction in the sigmoid so often encountered in gynecologic patients.

The lateral regions of the pelvis on both sides of the uterus are to be palpated as described above, the right index finger being used for the right side and the left for the left side. Any deviation from the normal should be closely noted and recorded. It is this part of the examination that taxes the expertness and skill of the

gynecologist; yet, as a rule, a clear diagnosis of the condition of the adnexa is readily made by one accustomed to it. When, however, a positive diagnosis can not be made, resort to anesthesia as an aid is permissible.

The examination of the pelvic organs should be thorough and complete, but must not be unnecessarily prolonged, and roughness must be avoided. If a mass or tumor is detected, its location, size, character, relation to the uterus and other pelvic organs must be recorded, as well as the fact that it is movable or fixed, or attached and to what, when it is possible to decide.

When the examination is completed the vulva should be wiped off with a warm, wet cloth, preferably by the attending nurse, whose presence is essential when making gynecologic examinations.

Exploration of the bladder is not necessary as a routine measure and is unwise. Microscopic examination of the urine will, as a rule, afford all the information desired.

In conclusion, I would insist that cleanliness in every detail is essential for the success of the gynecologist and the safety of the patient.

DISCUSSION.

DR. J. RIDDLE GOFFE, New York City, said that during all of his professional life he has been a teacher of diagnosis in gynecology, and he finds it one of the most difficult fields to occupy. As Dr. Goelet has said, there is no history of a patient that will give any positive preconceived idea of what will be found at the examination. The only outline of symptoms Dr. Goffe depends on at all is that of finding in a young woman a history of dysmenorrhea through her girlhood, and of sterility during three to six years of her married life. Aside from that he knows of no line of symptoms that will give any sort of a picture of what one is going to find. Lawson Tait, he said, promptly made a diagnosis of salpingitis and, indeed, operated on learning of the symptoms of sudden pain in the pelvis on either side, aggravated at the menstrual period. Dr. Goffe finds a great difference in methods of examination. It is customary with students, general practitioners who come for instruction in this line, to examine with two fingers instead of one. They say that the middle finger reaches half an inch beyond the ring finger and that therefore they can reach farther in using two fingers than one. Dr. Goffe has noticed that the ring finger will never come down to right angles with the middle finger, and by holding the fingers off straight, this takes off as much from the middle finger as it projects beyond the index finger. He insists that they shall examine with the index finger. The middle finger will come down to right angles with the index finger. It is the most natural position of the examining hand to have the small diameter of the fist in the small diameter of the outlet. This should be done with the side of the finger up. It is possible to feel just as much in this way as by the ends of the fingers. The *tactus eruditus* does not reside in the fingers, he said, but in the brain. There is the mental picture of what the sense of touch can convey to the brain. The thumb should be doubled in the palm of the hand, then the fingers doubled over it to make the fist as small as possible. In examining the uterus Dr. Goffe finds that all cases can be classified under two heads according to the position of the cervix: that the cervix is either perpendicular to the axis of the vagina, or else in the axis of the vagina.

DR. A. H. GOELET, New York, claimed that he did not say that he depended on the history for his diagnosis, but that it might be an aid to diagnosis. He was glad that Dr. Goffe agreed with him relative to examining with one finger. He does not use exactly the same position of the hand which Dr. Goffe recommends, and he thought Dr. Goffe was mistaken in doubling the fist up as he does, in that it takes away from the length of the fingers. The three unused fingers should go in the fold of the buttock, and the examination is made with the tips of the fingers. By attempting to pass the hand around to palpate the opposite side, one can not reach as far as he can if he changes the hands and uses the other hand in the same way. The microscopic examination of discharges and of the urine is also important in these gynecologic patients.

TRIGGER FINGER.*

ROBERT F. WEIR, M.D., F.R.C.S. (Hon.) Eng.
Professor of Clinical Surgery, College of Physicians and Surgeons.
NEW YORK CITY.

This affection, which is generally known by the title trigger finger, is also called variously digitus recellens or lock or snapping finger and sometimes spasm of the finger[1]. The original title given to it by Notta and Nelaton was "doigt à ressort" (spring finger), and in Germany it is called "schnellender" or "federnen finger" (snapping or spring finger). It is nearly always met with in flexion (Fig. 1), and particularly in flexion sufficiently great to allow the tip of the finger to rest or to press firmly on the palm of the hand. When the trigger action is present the finger can only be extended by a considerable muscular effort, or by the aid of the other hand.

In overcoming the hitch by the action of the extensor muscles the finger springs back suddenly and usually with more or less pain, though when arrested or replaced by the sound hand much less discomfort is ordinarily experienced. It may indeed not be associated by any pain whatever and may be no more than a source of amusement to the bearer as well as to spectators. The pain is also occasionally felt in the flexion that brings about the hitching, though to a less degree than in the subsequent extension of the finger. A slight click or rubbing noise or sensation has been noticed in a few instances. It is a rather rare affection, though I know of three instances in my own social circle. While most of these trigger fingers are endurable or inoffensive, yet they may and, not infrequently do, become so painful or interfere so much with manual labor as to demand surgical intervention.

Tillmann reported five cases coming to his clinic in one year, three of which were cured by an operation. The right hand is more frequently affected than the left. In Bégoune's[2] 179 cases, 117 were in the right hand and 62 in the left, and the fingers were affected in the following order:

	Right hand.	Left hand.
Middle finger	41	20
Ring finger	27	22
Thumb	31	31
Index finger	11	2
Little finger	7	7

The trigger action was symmetrical in both hands 18 times and 4 times it was multiple in two hands. In 4 cases, a double jerk or catch was found in one finger (Marchesi[3]).

It is found more frequently in women than in men. Carlier[4] in 98 cases collected by him reported that 58 were in women and 40 in men; in 139 of Bégoune's cases 77 were in women and 32 in men. It is met with at all ages; 2 were congenital and others at 11 months and 2½ years have been reported.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

1. Anderson in Deformities of the Fingers and Toes was the first to apply the terms "trigger finger" to this affection.
2. Contribution à l'etude du doigt à ressort. Rev. de la Suisse Romande, 1898, p. 489.
3. Deutsche Ztschr. f. chir., 1905, lxix, 364.
4. Thèse de Paris, 1889, Sur le Doigt à Ressort.

In a later thesis on this subject by Robel in 1900 and quoted by Bergmann[5] in his recently published work on surgery there were 154 carefully analyzed cases, of which 99 were in the right hand and 55 in the left hand, as follows: Twenty-eight, right thumb; 34, right middle finger; 21, right ring finger; 11, right index finger; 5, right little finger—99; 13, left thumb; 13, left middle finger; 23 left ring finger; 1, left index finger; 5, left little finger—55.

These figures, though relatively varying, bear somewhat strongly on the question of the cause of this affection. In women, for instance, it was noticed to be more frequent in those engaged in sewing, embroidering, knitting and mattress making. In 39 cases in women collected by Carlier, 13 of these did needle work, embroidering, etc., and in these were affected: Right thumb, 5 times; right median, 5 times; both little fingers, once; right thumb, once; left thumb, once (embroidering); left little finger, once; little finger, 14 times.

It is to be recalled here that in sewing, the thumb and middle fingers are most concerned in the use of the needle and the little finger in drawing home the thread and that the middle finger is engaged in its thimble action. This summary apparently brings to the fore the influence of repeated strong work-efforts in damaging a tendon. The etiologic factor of a trade-damage is, however, scouted by the most recent writer on this affection (Marchesi, 1905), but to appreciate correctly the causes assigned for the locking action it is worth while to run over briefly the history of this disease.

It is of comparatively recent birth. Notta,[6] inspired by Nélaton, was in 1850 the first to descr be the disease. He ascribed it to a thickening of the ends of the synovial sheaths which invest the tendons, which, then by pressure, interfered with the proper tendon movements (Fig. 2). But these sheaths do not extend into the palm, where most frequently the cause of the trigger action was encountered; therefore this explanation was not long accepted.

Menzel[7] in 1874 made cadaveric experiments and demonstrated that any nodulation made in the flexor tendons themselves or any stenosis in their sheaths would interfere with the movements of the fingers and would bring about their temporary fixation. Menzel also proved that loose bodies in the tendon sheath would not arrest motion, but that if they were attached to the tendon or sheath they would act obstructively. Yet I had, several years ago, a case of tendon sheath tumor in the palm causing contractions but no trigger action of the index finger, which on its removel revealed other shotlike growths or masses of granulation cells attached in some twelve or fourteen places to the sheath distal to the primary incision and running up to the terminal phalanx of the finger. On the removal of the palmar mass and these adjunct polyps and leaving intact the tendon sheaths over the digital articulations, full and easy motion was established and retained.

A good deal of theorizing, with an occasional autopsy, served to give birth to many views concerning the cause of the locking action of the fingers, one of which was urged by Heger[8] in 1897, Féré in 1899 and by Riesmann[10] and others was that it was of a nervous origin, and several cases were presented of a trigger finger in hysteric, epileptic or more serious neuroses. Inasmuch as most of these cases were of a transitory character or associated with nerve faults in other parts of the body, they can justly be passed over as not of the nature of the affection now in question.

Steinthal[11] and Poirier[12] believed the arrest in flexion was caused by a fault in the lateral ligaments of the metacarpo- and inter-phalangeal joints—a lesion which might produce, as has been shown by Adams, a hammer but not a trigger finger and would likely beget a permanent flexion.

Koenig[13] called attention to a transverse enlargement in the distal third of the metacarpal bone as a possible cause of trigger finger. This enlargement can be readily felt, I may say, in many fingers and of which I have an example in my right untriggered hand and will partly explain the immovable nodosities so often felt before operation in these cases but which during operation can not be felt in the tendon or its sheath.

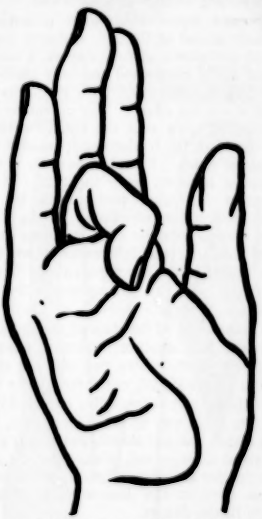

Fig. 1.—Trigger finger (from Abbe).

Roser[14] thought the hitching occurred at the point of passage of the flexor profundis through the split superficial flexor and Blum in 1882 advanced the idea that the tendon enlargement was at or below this point and that its arrest was produced by the fibrous arch that marks the beginning of the digital tendon sheath. This is easily shown to be an erroneous conclusion, since the locking is only produced in flexion of the finger, which in turn pulls the point of fission toward the palm and away from this fibrous arch.

So the interpretation of this lesion went on varying more and more toward correctness until the etiology was fairly settled by the revelations of autopsies and by the

5. Beitr. z. traumatischen genese des Schnellender Fingers; Inaug. Dissert., Leipzig, 1900-1901.
6. Arch. generale de Méd., 1850.
7. Centrbl. f. Chir., 1874, p. 337.
8. La Clinique, Brussels, 1897, p. 285.
9. Rev. de Chir., 1899, xix, 74.
10. Philadelphia Polyclinic, 1898, p. 163.
11. Lehrb. d. Chir., second edition.
12. Arch. generale de Méd., 1889, ii, 143 and 302.
13. Lehrb. d. Chir., third edition.
14. Handb. d. Anat. Chir.

result of operative interferences for the relief of the difficulty.

Though Leisrink in 1884 was the first to relieve the affection by surgical means, not many repetitions of this treatment were met with during the next fifteen years. Since then, however, operations for the relief of trigger fingers have been more common and now I am able to add to the collection made by Marchesi, whose article on this subject in 1905 has a classic completeness, some other cases, including the one giving origin to this paper, thus making in all forty-two cases that have been subjected to operative inspection and the causes in some instances to microscopic investigations. These forty-two cases I have tabulated under the following various heads:

1. Where the obstruction fault was in the tendon, 11 in number.
2. Where it was in the tendon sheath, 15 in number.
3. Where it was due to trauma, 9 in number.
4. Where it was due to neoplasm, 3 in number.
5. Where nothing was found, 4 in number.

Several cases reported in other collections I have omitted, such as one of Bégoune's, due to tubercular infiltration of the sheath of four fingers, a cause common enough and easily recognized and only incidentally having some locking associated with it. Also another of Roux's for a similar cause. The operative cases which I have collected show that the trigger action was due to causes seated in the tendons or its sheath 35 times in the 42 tabled cases. For this purpose the traumatic cases, nine in number, were included. Furthermore, and attention is called particularly to this point, the tendon obstruction was found in the digits proper in all the traumatic cases save one, and in nearly all the others excepting the tubercular cases, the obstruction was situated below the digitopalmar fold.

Furthermore, and this is important, the obstruction when recognized was a removable one and with its removal the restoration of function of the finger took place in every case. Still another important observation was made that even if the obstruction was not recognized, a free incision of the sheath not infrequently induced the removal of the trigger action—this occurred in two cases. In four cases there was no cause described, but in only one was it stated that the sheath was widely opened. All these remained unimproved. Four cases are presented in which the trigger action was found in the extensor tendons; these were on the dorsum of the hand; all the others were in the flexors.

As to the causes, it is hardly worth while to allude again to those emanating prior to the operative experience began by Leisrink. A glance at the diagram (Fig. 2) showing the situation of the finger synovial sheaths, will show that engorgement (Notta) or a thickening of their ends will not account for the development of the trigger action. Doubt has been cast also on the value of prolonged or repeated functional efforts and later examination of Marchesi and others have failed to prove their importance.

Rheumatism and gout are made the parents of nearly all joint or tendon disease, and the trigger finger has not escaped this alleged paternity. In none of the cases under surgical investigation has there been found any gross or microscopic evidence of any deposit of urates in the sheath or in the tendons, though a number of special investigations have been devoted to this point. What has been revealed by careful examinations of the removed portions of the affected tendon or its sheath, excluding tubercular deposits and the changes ensuing on acute traumas, is a certain amount of circumscribed fibrous hypertrophy. It was called by Bergmann a "tendonitis, callosa, circumscripta." The researches of Thorn,[15] Morian,[16] indicate strongly the possibility of the larger tendon changes being due to previous hemorrhages (traumatic) and subsequent degenerative changes in their interiors. Lexer[17] likewise considers the varying changes in the sheaths and tendons, whether tubercular, cystic or hyperplastic, to be primarily due to slight traumatic hemorrhages and fully confirms Morian's opinion.

Individually I am forced to admit the possible influence of a gouty or rheumatic diathesis in aiding and abetting traumatic changes and that repeated slight injuries inflicted on the exposed tendons in the palm, with or without this influence, may develop a thickening sufficient to cause an interference of tendon motion. The tendons and their sheaths seem to be more unprotected in the palm than in fingers themselves in which latter locality a strong special sheath of varying thickness and a synovial buffer guards them better than in the upper palm, where the tendon sheaths are derived from a varying thickness of the palmar fascia, and where both tendon and its sheath can be, and often are, unduly crowded against the subjacent metacarpal bones, and not infrequently damaged by the normal projections on the large joint-ends.

The case which I add to the list of operations performed in the past and gathered by a somewhat extended research seems to lead to the same conclusion. It is a personal one, in more than the usual sense, as it occurred in my own hand.

I had had for two or three years a slight painless trigger action in the third finger of the left hand, brought about, as it was then thought, by the pressure on the palmar side of the finger from a large seal ring when it caught, as it did occasionally, on various projections in trunks, bags, etc. This augmented pressure would at times be followed by tenderness along the proximal digital phalanx and eventually a trifling locking of the finger now and then resulted whenever complete flexion was essayed. It was not even annoying, and it was often purposely developed as a clinical exhibition to my class of students.

About the beginning of 1906 the trigger action of the finger began to be more frequent, more difficult to unlock, and more painful, the pain being felt most in the upper part of the palm of the hand and also greatest when the flexion was at its utmost. As the locking was followed usually by an induced spasm or action of the extensors to unlock the fixed finger, a second pain was experienced of a lesser severity when the finger straightened itself out. This, however, could not always be effected by pure muscular action, but needed at times the help of the other hand. No jumping sensation or rubbing or perceptible noise as the locking and unlocking occurred, was ever noticed, such as has been described by a few observers. This locking and pain, with its resulting unlocking, was most likely to be produced in such efforts as in lacing up one's shoes or by a firm grasp of the fork in cutting meat on one's plate, etc. The offending ring, I may state, was discarded as soon as pain began to be felt.

During the spring and early summer of 1906 I took a large interest in a newly established flower garden and, like Charles the Fifth with his cabbages, enjoyed the planting, weeding, hoeing, etc., that pertained to a personal care in such matters. This demanded much use of the trowel and other implements, not only by the right hand, but also by the left hand. Though a slight gouty tendency existed that had shown itself for several years past in mild tenderness in the big toe joints and in

15. Arch. f. Chir., xxxviii.
16. Münch med. Wochschr., 1900, 5.
17. Allg. Chir., II, p. 154.

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knobbing in the right hand enough to cause wincing from the handclasp of too strenuous acquaintances, with whom "friendship was a vise," yet it seemed to me that the aggravation of my trouble was more due to the possible slight and repeated traumas to which the hand had been subjected in my new vocation of gardener.

There was no change to be seen in the finger or palm, but on palpation a small knot or nodule was occasionally noted in two locations, one at the base of the proximal phalanx where the ring had pressed and the other in the palm just over the expanded head of the metacarpal bone. At the latter point there was some tenderness on pressure. To offset the value of this sensation of a nodule I may say that a similar knot could be felt in the sound right hand, but without any tenderness on pressure. This is a point in diagnosis that the operative experience of others has shown to be of doubtful value, though nodules have been reported as being present in a majority of the observed cases (see tables that follow). The nodule is of more importance, however, if it moves with the tendon, but even here it is often not found at the ensuing operation.

Finally the increasing annoyance and distress caused me to seek surgical intervention and in June last, immediately after

Fig. 2.—(From Spaltehols's Anatomy.) Showing synovial sheaths of fingers, etc. The split palmar sheath shows where the trigger-stenosis usually occurs. In the index finger the attachments of the superficial tendon are shown, to illustrate (Sick's) Case 1.

my efforts as your chairman at Boston led me to an extra painful experience in using the gavel with the left hand, and particularly in the excited discussion that the subject of prostatectomy involved, I besought Dr. Robert Abbe, whose experience in matters of this sort is well known,[18] to relieve me.

It illustrates the comparative rarity of an operation for trigger finger, that neither Dr. Abbe, with his extensive special work in hand surgery, nor myself had ever interfered surgically in such an affection or knew of it having been resorted to by any of our colleagues. It was doubtful to us both whether the obstructing point was above or below the palmar digital fold. I inclined to the belief from the supposed influence of the ring trauma that it might be above the fold, and as the incision there would be a small one the surgical attack was begun there. Under cocain injections and an Esmarch bandage applied up to the belly of the forearm muscles so as to leave the tendons free of voluntary motion, Dr. Abbe deftly exposed the flexor tendon over the proximal phalanx, but as nothing was found here the skin incision was carried upward by degrees until the first palmar fold was reached and the tendon sheath exposed save at the base of the proximal phalanx, where is situated the arch under which the superficial and deep flexors passed. This fibrous band was preserved to secure subsequent retention of the tendon *in situ*. The sheath was somewhat rosy in color and a little thickened, but otherwise appeared normal. On incising this, the tendon was exposed, and by palpation and by lifting up from its retaining canal the contained tendon, it was proved that underneath the digito-palmar fold no hindrance to motion existed. Then the sheath below the fold was divided by repetitions of small cuts.

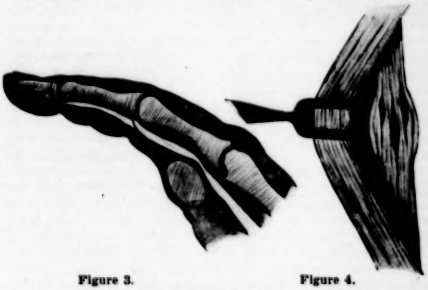

Figure 3. Figure 4.

Fig. 3.—Trigger finger from tumor pressure.
Fig. 4.—Central enlargement of deep flexor.

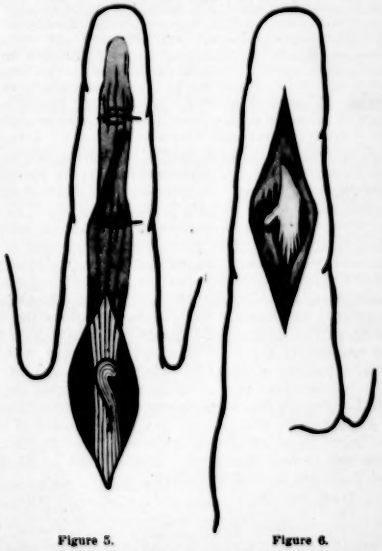

Figure 5. Figure 6.

Fig. 5.—Trigger finger from trauma, illustrating two cases. In the middle digital space is seen the half of a needle imbedded in the tendon illustrating (Payer's) Case 4. In the palm a curled-up portion of the tendon is shown, illustrating (Haegler's) Case 5.

Fig. 6.—Tendon split by punctured wound; illustrating (Haegler's) Case 8.

On a level with the head of the metacarpal bone was then noticed a small pearly white nodule attached by a

18. Surgery of the Hand, N. Y. Med. Jour., Jan. 13, 1894.

slight pedicle to the inside of the sheath and of the size of a large pinhead. At first it was thought that this might act in producing the trigger action, since as previously noted Menzel had shown experimentally that such would result if the foreign body were attached, but that no locking would occur if the foreign body were free in the tendon sheath. This little pedunculated mass was excised, but the locking still continued when the finger was vigorously flexed. As the sheath was divided toward the wrist, not only did its thickening become more decidedly marked, but each liberating cut gave an appreciable sense of relief in the essayed finger movements, but it was not until a final section was made on a level with the first palmar fold that the locking entirely disappeared. At the site of the perforation of the superficial flexor by the deep one there was nothing abnormal though a vigorous search was made by lifting the tendons asunder.

The tendon sheath proximal to the last point of division could not be clearly seen, and Dr. Abbe judged it inadvisable, as relief had been obtained, to cut further in that direction owing to the proximity of the superficial palmar arch, though at its last point of division it was recognized to be considerably thickened and injected. No suturing was resorted to, and the closure of the wound was well effected by pads on each of its sides, compressed and retained by adhesive straps. The hand and fingers were immobilized by a molded aluminum splint reaching nearly to the wrist and secured by a bandage.

The progress of repair was eminently satisfactory. Considerable blood-stained fluid, synovial probably, escaped in the first twenty-four hours, requiring a change of dressing, but after that only a couple of dressings were required, at the first of which the splint was diminished so as to limit the movements of the affected finger only. At the end of ten days this restrictive support was withdrawn and voluntary movements permitted. Healing of the wound occurred on the fourteenth day and full flexion was obtained on the twenty-eighth day. The outcome has been most satisfactory at the date of this report, June, 1907. Now full and perfect movements of the finger exist, without pain or impairment of function.

A further word may be added concerning the use of the Esmarch bandage. Necessarily, in the preceding case the surgical work was done slowly and the incisions in the tendon sheaths were made tentatively. At the end of about fifteen minutes the aching of the ischemic hand became so great as to demand the removal of the rubber bandage, when the wound was lightly plugged. After a delay of from three to five minutes the Esmarch bandage was reapplied. Three repetitions of releasing and reapplying the bandage was resorted to before the final release of the obstruction was brought about. Now that the analysis of the collected cases has shown that the usual situation of the obstruction is, in most of the cases, in the upper part of the palm, the surgery for the relief of trigger finger can be more rapidly concluded.

Appended are short synopsies of all the cases of trigger finger, in which operation has been done, that I have been able to find published. They amount to 43 cases and have been divided as follows:

From trauma	9 cases*
From neoplasms	3 cases
From unknown causes	4 cases

This makes a total of 16 cases, leaving 27 cases for the deduction of the eitology of the affection. Of these the obstruction was situated in the tendon 12 times, in three of which it was of a tubercular character; and in the tendon sheath 14 times, in these also in three instances the lesions were tubercular ones.

The sheath lesion was noted generally as a thickening, rarely as a sessile growth except in the tubercular cases. The tendon was either thickened in a fusiform manner or abruptly bulging (Fig. 2), or more seldom presenting a lateral bulging. All but one of the dorsal or extensor trigger fingers, which all occurred above the knuckle, were of tubercular origin.

The situation of the obstruction, as has already been said, excluding the neoplastic and traumatic form, of which the latter generally are found in the digits, was in nearly all the cases of the flexor trigger action found in the short space between the digitopalmar fold and the first fold or wrinkle in the palm. When the thumb was affected the location of the locking was at or near the digitometacarpal articulation. Here a free division of the sheath between the sesamoid bones there found, gave the most frequent relief even when no lesion was recognized.

The treatment and its results have already been indicated, the former at length in my own case. While many times a cure has been effected even where both tendon and sheath appeared normal, especially if the sheath be widely opened, yet occasionally a portion of a thickened sheath has been removed or a fusiform swollen tendon lessened in size by shaving it down or by taking out a longitudinal triangular piece or by cutting a protruding part of a tendon or by splitting it and digging out a mass of degenerate cells of hemorrhagic origin. Notwithstanding that success has followed these various measures, I am inclined to advise, after the failure of a legitimate bloodless treatment, that simple free incision of the tendon sheath be resorted to in most cases as the curative procedure. In five cases in which the tendon was involved, this measure was resorted to with a successful and permanent result. The suturing of the sheath after removal of the tendon obstruction, of whatever character it may be, need not be resorted to. Care must be taken to preserve the arch of the digital sheath at the base of the first phalanx.

TABLE 1.—TRAUMATIC CASES.

1. SICK (*Centrbl. f. Chir.*, March 25, 1893, p. 265. Figure 2): At operation the ulnar portion of the split superficial flexor had been divided and hence the one-sided pull begot a hitch. Divided tendon sutured. Cured 2½ years later. When last seen, good permanent result.
2. WOOD (*Internat. Colon. Med.*, Australia, 1898, iii, 30): Left little finger repeatedly locked. By *x*-ray a dark body was seen over distal end of metacarpal bone. This also could be felt. On operation this was found to be a small sesamoid bone against which his racket handle had much rubbed. After its removal, patient was cured.
3. SUDECK (*Berlin klin. Wochschr.*, 1900, xxvi, p. 30): Prick of needle in forefinger, middle phalanx. Trigger action. By operation nodule on tendon removed. Cured.
4. PAYER (*Wien. med. Wochschr.*, 1903, p. 755, Fig. 5): A needle was broken off in middle phalanx of left index finger. It brought on incomplete trigger action of the finger with sharp pain. At operation the broken half of the needle was found entirely under the sheath lying on the tendon itself and slightly puncturing it. It was removed with complete recovery.
5. HAEGLER (Marchesi), 1905 (Fig. 5): Prick of middle finger at root of proximal phalanx. At operation a portion of superficial tendon found split off and curled up in a small nodule; excised; sheath and skin sutured. Cured.
6. DUFFIELD (Brooklyn Med. Jour., March, 1904): Left little finger over-extended in playing basket ball. Tender afterward and a swelling or lump at the root, one week later snapping of finger ensued with "a tendency of extensor tendon to slip to outer side of finger during flexion." On operation extensor tendon exposed and sutured to internal lateral ligament of the metacarpophalangeal joint from which it appeared to have been torn. The two lateral portions were also drawn together in their passage over the first interphalangeal joint. Recovery.
7. HAEGLER (Marchesi), 1905: Punctured wound by an awl over middle phalanx; nothing felt on palpation. Small swelling found on tendon; excised; cured.
8. HAEGLER (Marchesi), 1905 (Fig. 6): Punctured wound of left index over middle phalanx—a small piece of superficial tendon split off and rolled up in a nodule; excised; sheath and skin sutured. Cured.

* Three traumatic cases (Notta, Dumaret and Lossen) are reported by Marchesi, wherein trigger finger which followed punctured wounds disappeared in from three weeks to eight months without surgical intervention.

TABLE 2.—TUMORS

1. HAEGLER (Marchesi), 1900 (Fig. 3): Tumor, fibrosarcoma, at lower end proximal phalanx—size of hazel nut with marked trigger action. Tumor attached to sheath. The tendon, by pressure had been decidedly thinned and its sheath narrowed. Cured.
2. SCHMIDT (A.): (*Münch. med. Wochschr.*, No. 22, 1895): Right medius. Tumor, chondrosarcoma. At base of proximal phalanx was adherent to sheath of tendon and to the tendon itself, but no trigger action had been procured. A portion of the sheath was removed with the tumor, but tendon was dissected free. It had been thinned by the previous pressure. Twelve days after operation a trigger action was developed, nothing abnormal felt. Trigger action disappeared at end of 14 days.
3. LANNELONGUE (Jeannin) (*Pathol. et Trait du Doigt à ressort*, These, Paris, 1895): Fibrous tumor at base of proximal phalanx of right middle finger, size of a bean attached to sheath of flexor tendon and immovable during movements of flexion. Tumor excised, disappearance of phenomena of trigger action. Seen years later, no recurrence in previously affected finger, though left little finger had lately shown a trigger tendency.

TABLE 3.—SHEATH AND TENDON.

1. LEIBRINK (*Semaine Méd.*, 1884, p. 188): Nodosity in right middle finger felt on a level with metacarpophalangeal joint. Excised. Recovery.
2. WIESINGER (*Deutsche med. Wochschr.*, 1887): Over palmar flexure of thumb a thickened and tender band was felt. On cutting through sheath it was found thickened and incision was carried distally to a short distance above the joint. Tendon normal. Cured.
3. CARLIER, 1889 (*Bull. Soc. Anat.*, March, 1889, p. 185): On right middle finger a node felt over first metacarpophalangeal at operation; small nodule found on deep flexor; removed. Five years later little finger similarly affected. Cured.
4. BLUM (Sticherbatcheff, *These de Paris*, 1890, p. 63): Right index. Sheath of tendon incised over first phalanx. Fungosities arising from sheath; excised. Tubercular. Recovery.
5. JEANNIN, 1893: Right thumb. At digitopalmar fold nodosity felt. A thickening of flexor sublimis found on incising palm which involved the whole tendon a portion 2 or 3 mm. First of the sheath was incised which gave relief.
6. JEANNIN, 1893: Right thumb, two small nodules felt on flexor tendon at palmar fold. Sheath incised. Recovery two years later. No recurrence.
7. JEANNIN, 1893: Left little finger. Slight nodosity moving with tendon was found on affected finger and also on sound finger of other hand, no nodosity found. Sheath close fitting and tendon rubbing as it moved. Sheath incised.
8. BLUM (Jeannin, *Path. et Trait du Doigt à Ressort*, Paris, 1895): Right thumb, Node felt at metacarpophalangeal joint. Located on tendon at operation. Scraped off. Recovery.
9. RIEDINGER (*Centrbl. f. Chir.*, 1895, Bégoune): Right thumb damaged by a fall six months previously. Later trigger finger developed, most marked in extension. A painless and immovable nodosity felt on flexion which disappeared on extension. At operation the sheath showed transverse foldings on flexion which gave rise to the sensation of a nodosity on previous palpation. On extension these folds disappeared. They projected from the sheath especially laterally and thus compressed the normal tendon within." All this abnormality of the sheath was excised with a resulting cure.
10. PEUSET (Bégoune), 1898: Right thumb involved, operation showed thickening of tendon sheath, of which a piece as large as a flattened shot was excised—cured.
11. HEINKE (*These de Heilbron*, 1898, Bégoune): Left median and little fingers of left hand affected. Over median tendon in upper palm a nodosity felt which followed the movements of the flexors. By rest the trigger action in little finger passed away, but the middle finger came to operation when the apparently normal sheath was divided exposing a normal tendon, but when flexion was brought by electricity under anesthesia the trigger action disappeared. No nodosity found. Cure effected.
12. ROUX (Bégoune), 1897: Right thumb. Palmar incision showed sheath reddened and thickened, a portion of this was excised with abolition of trigger action, but with a persistent slight limitation of motion.
13. BLUM (Bégoune), (*Rev. de la Suisse Romande*, 1898): Ring finger. Nodosity felt, incision in palm; sheath stiff and tension rubbed in it when moved; sheath freely incised; nothing abnormal seen. Cured.
14. ROUX (Bégoune) 1898: Right thumb. Incised over metacarpophalangeal articulation. Fibrous thickening of tendon found. Tendon narrowed by taking out a longitudinal wedge. Cured.
15. ROUX (Bégoune), 1898 (Four in one patient): Third and fourth fingers in each hand affected. Sheaths opened and fungosities (tubercular) which arose from sheath wall removed. Much improvement followed, but grasps not perfect. Trigger action, however, abolished.
16. DUPLAY (*These de Clément*, Paris, 1898): Enlargement of tendon felt over palmar flexure of thumb. At operation sheath found thickened over a space of several millimeters. Tendon sound. Cured.
17. DUPLAY (idem.): Over left thumb just at the palmar flexure an indurated enlargement felt in extension. At operation a thickened sheath over an area of about 3 mm. was noticed. This was excised. Nothing seen on tendon. Cured.
18. TILLMANN (*Berlin. klin. Wochschr.*, 1900, 43): Three cases. In each was a knot on tendon near metacarpophalangeal joint. Sheath opened and cut the arched edge of digital tendon sheath. Did not remove the knots in two cases. Both cured. In third case opened sheath and eviscerated knot by a long incision in tendon with a good result.
19. BERNECKE (*Deutsche med. Wochschr.*, 1902, 246): Left middle finger. Small knot felt at metacarpophalangeal joint which moved in flexion and extension. Pressure on this enlargement was painful. By incision a thickened mass was found on sheath, which was excised with a portion of the same. Recovery complete.
20. BERNARD (*Pract.*, 1903, lxx, p. 178): Terminal phalanx thumb triggered. A painful knot at level of digital palmar fold in region of sesamoid bones. On operation a knot found to impinge at level of sesamoids. Cured by free division between the sesamoids.
21. BERGMANN (*System Pract. Surgery*, 1904, iii, p. 363): Gives two cases, the first, a hard, spindle-shape thickening of tendon just below forking of the flexor tendons. Operator not stated. Cured. The second, annular fibrous thickening of tendon sheath. Incision. Cured.
22. MARCHESI (*Deut. Ztschr. f. Chir.*, 1905): Right middle finger. Just below palmar fold a nodule was felt which moved a little in flexion and extension. At opening made in palm the tendon sheath over an area size of a pea was invaded in a mass of small granulations which perforated and involved the tendon beneath, spreading its fibers apart. A portion of sheath was excised and the tendon split and the infiltrated part peeled out. Cured. Character, tuberculous.
23. HAEGLER (Marchesi), 1905: Trigger action in extensor tendons. A double nodule on dorsum of hand on the tendons of index and middle fingers near the wrist. Fingers all flexed, but extension difficult from trigger action of these two fingers. At operation each tendon found invaded by a hard peasized tubercular tumor, which was dissected out preserving the tendons. The locking was at the edge of the lig. carpi dorsalis. Cured, though weakness of the hand remained for several months.

TABLE 4.—UNRELIEVED CASES.

1. QUENU (Carlier) (*These de Paris*, 1889): Trauma by twist of right thumb. Trigger action at last phalangeal joint of thumb during extension only. Tendon exposed; nothing found. Not relieved.
2. QUENU (Carlier, idem): Right medius constantly flexed, though extension possible by coaxing force from other hand. Nodosity felt at digito-palmar fold. Palmar incision tendon exposed, nothing found. No relief.
3. HAEGLER (Marchesi), 1905: In both thumbs the distal phalanges showed trigger action. At the palmar folds projecting knots were felt that moved upward and downward in extension and flexion. Later, one thumb improved under time, massage and ichthyol and bandages. The left, being obdurate, was operated on. Sheath normal. Tendon normal save a slight constriction and above and below this there was a slight thickening and a little more opacity than usual. Sheath left open. Not relieved.
4. HAEGLER (Marchesi), 1905: Right thumb. Knot felt in flexion, not in extension. When sheath was exposed a friction was distinctly felt in thumb movements. Sheath opened widely. Tendon was normal. It did not apparently constrict the tendon. No relief.

SPONTANEOUS ARTERIAL DEGENERATION IN RABBITS.*

AMY B. MILES, M.D.

The effect of the various adrenalin preparations in producing degenerative changes in the vascular system has received much attention during the past few years. The work of Josué in 1903 gave impetus to investigations alone this line, although changes had been noted in the various organs of rabbits used for experimental work as early as 1880, and definite lesions are said to have been produced in the vascular system as early as 1889 by the injection of micro-organisms or their toxins. Since Josué's articles appeared a considerable literature has accumulated on the subject, practically all investigators agreeing, to a greater or less extent, that arterial lesions followed the administration of adrenalin

*From the Pathological Laboratory, University of Colorado.

to rabbits. As to whether the ill effects were due to the toxic action of the drug, to the increase of blood pressure occasioned by it, to the cachexia resulting when the drug is given in large doses and for a considerable time, or to a constriction of the vasa vasorum, thus impairing the nutrition of the vessel wall, has received different answers, lesions being found in the experimental rabbits whether one or the other of the above factors be ruled out by carefully selected experimental conditions. It is a well-recognized fact that the degenerative changes

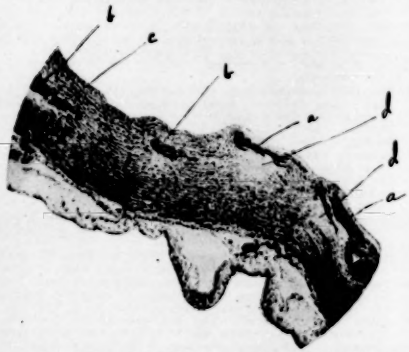

Fig. 1.—Aorta of "normal" rabbit, showing calcified lesions with a relatively small amount of cellular infiltration: (a) Calcified areas just beneath the intima. (b) Calcified areas deeper in the media. (c) Cellular infiltration. (d) Hyalin and granular degeneration. (H. and E. stain; ×75. Photographed by Dr. Gramm).

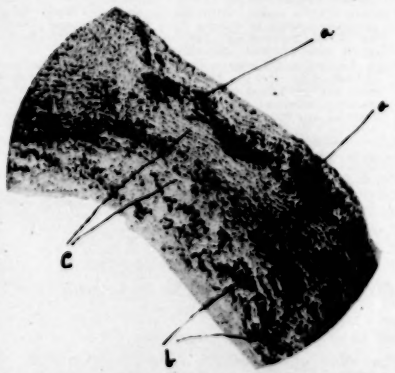

Fig. 2.—Aorta of "normal" rabbit showing extensive lesions involving almost the entire media: (a) Cellular hyperplasia in the inner portion of the media. (b) Cellular hyperplasia in the outer portion of the media and adventitia. (c) Hyaline and granular degeneration of muscle and elastic fibers. (H. and E. stain; ×75. Photographed by Dr. Gramm.

said to be produced by the drug have been found in rabbits only in any frequency, dogs and other animals apparently not being so susceptible. It is a further well-recognized fact that there is absolutely no regularity in the effects of the drug on rabbits and that the results in no individual experiment can be predicted with certainty, no matter whether the dose administered be large or small, the duration of treatment long or short, or by what route the adrenalin be administered, whether intravenously, intraperitoneally, subcutaneously or by mouth. Again, the condition of the vascular system in apparently normal rabbits not subjected to experimentation with drugs does not appear to have been very thoroughly investigated, according to the literature, and the question of how often the lesions found in the various experiments may have been present in the animals before receiving the adrenalin does not seem to have been seriously considered, it being assumed apparently that the vascular system and organs of animals not experimented on were normal. I can find distinct reference to such a consideration in but one article.[1]

Shortly after this work was begun, on account of the variable results obtained in the earlier animals used, together with the fact that the same variations in results appeared in the literature, it was decided to control the results of experiment by a careful examination of supposedly normal rabbits, obtained from the same sources and kept under the same conditions as those receiving the injections, in order to determine how frequently, if at all, lesions were to be found in apparently normal animals. Table 1 shows the results of examination of these "normal" rabbits and those receiving varying

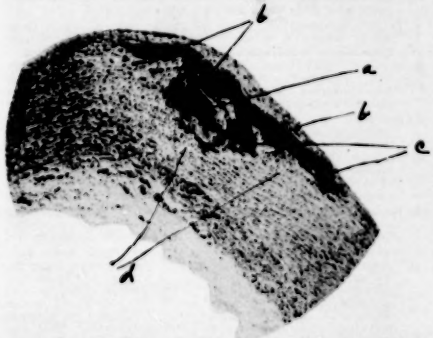

Fig. 3.—Aorta of "normal" rabbit: (a) Softened area consisting of colloid like eosin-staining material. (b) Calcified areas. (c) Cellular infiltration. (d) Hyaline and granular degeneration of muscle and elastic fibers. (H. and E. stain; ×75. Photographed by Dr. Gramm.)

amounts of adrenalin as to the number showing gross arterial lesions. Those in which gross lesions were not found were not examined microscopically, so it is possible that the percentage would be somewhat higher had that been done, as in many cases showing gross lesions and examined microscopically small lesions were observed in the deeper portion of the media which probably would not be apparent to gross examination alone.

Parke, Davis & Co.'s adrenalin chlorid 1-1,000, diluted to 1-10,000, was used in all cases. Doses were given three times a day for varying lengths of time and in varying amounts, from ½ m. to 15 m. (1-1,000 sol.). The injections were given subcutaneously.

The results in Table 1 are striking in their irregularity, there being apparently no relation between the frequency of the lesions produced and the size of the

1. "Spontaneous arterial disease has not been observed in rabbits so far as is shown by all the literature. We ourselves have never found such lesions in about 100 rabbits that were investigated with that in view," Hedinger and Loeb: Archiv. f. Exp. Path., lvi, p. 314.

dose, the total amount given, or the duration of treatment with the drug, the most extensive lesions of the entire number being found in the rabbit receiving 5 m. doses, 150 m. in all, while many others receiving four to eight times that total amount showed absolutely no lesions.

TABLE 1.—OCCURRENCE OF AORTIC LESIONS IN RABBITS RECEIVING ADRENALIN.

No. Rabbits.	Dose.	No. Injections.[2]	Total amount given.	No. showing lesions.
		Series A.		
1	⅛ m.	6	3 m.	0
1	¼ m.	11	5½ m.	1
3	½ m.	51	25½ m.	1
1	¼ m.	75	37½ m.	1
4	½ m.	123	61½ m.	0
10				3
		Series B.		
2	2 m.	11	22 m.	0
1	2 m.	14	28 m.	0
3	2 m.	20	40 m.	0
1	2 m.	41	82 m.	1
2	2 m.	51	102 m.	0
9				1
		Series C.		
1	5 m.	4	20 m.	0
4	5 m.	21	105 m.	1
1	5 m.	30	150 m.	1
2	5 m.	36	180 m.	2
1	5 m.	93	465 m.	1
2	5 m.	129	645 m.	0
11				5
		Series D.		
1	10 m.	4	40 m.	0
2	10 m.	24	240 m.	0
2	10 m.	30	300 m.	0
2	10 m.	39	390 m.	1
2	10 m.	51	510 m.	0
4	10 m.	54	540 m.	2
2	10 m.	60	600 m.	1
3	10 m.	123	1,230 m.	1
18				5
		Series E.		
2	15 m.	15	225 m.	0
1	15 m.	30	450 m.	0
1	15 m.	41	615 m.	1
4	15 m.	54	810 m.	0
4	15 m.	60	900 m.	1
3	15 m.	90	1,350 m.	0
13				2
61 Grand total.			Grand total	17
			27.86 per cent.	

Table 2 shows the occurrence of arterial lesions found in "normal" rabbits, not receiving adrenalin, obtained from the same sources as nearly as possible, and kept under the same conditions as those receiving the adrenalin.

TABLE 2.—OCCURRENCE OF AORTIC LESIONS IN "NORMAL" RABBITS.

Date.	No. killed.	No. showing lesions.
November 4, 1906	6	3
November 5, 1906	6	1
January 19, 1907	12	2
January 28, 1907	1	1
February, 1907	3	0
February 10, 1907	3	1
April 23, 1907	8	4
May 10, 1907	10	5
Total	49	17
		34.77 per cent.

The total percentage in Table 2 showing lesions, it will be noted, is somewhat above that for those receiving the injections. Two factors, in a measure, may be accountable for this. In the first place these examinations were made after some experience had been attained in the work, and a greater familiarity with the gross appearance of the smaller lesions, places to look for them, etc., and it is possible that lesions were noted in a few cases here which might have been overlooked in the earlier work; and, second, it was necessary in the later work to get a larger proportion of the rabbits from a firm raising them in large numbers and in close quarters for the market, many of those used earlier being picked up about the town from families having a few for pets which they wished to dispose of. It was noted that those received from this firm showed a higher percentage of lesions, whether injected with adrenalin or not, than those obtained from private families, probably because of more unfavorable environment and food. Then, again, the total number in either group is not large enough to rule out the factor of chance and to give entirely reliable averages.

The figures do show, however, that the occurrence of spontaneous lesions in the vascular system of rabbits supposed to be normal is by no means uncommon, and that probably a large proportion of the lesions reported in previous literature have not been produced as a result of the adrenalin and other materials used, but were present when the experiment was begun.

Most of the rabbits used in these experiments were about two-thirds grown. Those receiving the 5 m., 10 m. and 15 m. doses tended to emaciate, but it will be noted that the lesions are relatively no more numerous or regular in their occurrence than with the smaller doses.

The gross appearance of the lesions was the same in

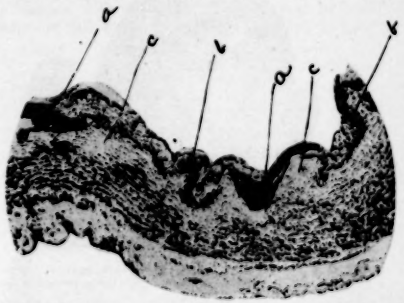

Fig. 4.—Extensive lesions with thinning of the aortic wall. "Normal" rabbit: (a) Calcified areas. (b) Cellular infiltration. (c) Hyaline and granular degeneration of muscle and elastic tissue. (H. and E. stain; ×75. Photographed by Dr. Gramm.)

the injected and non-injected animals, and no differences were noted in their location. They were in general grayish white in color, more or less opaque, circular to angular in outline, or sometimes appearing as short lines running lengthwise with the vessel, usually raised above the surface as the vessel was laid open, and varying in size from pin-point to several millimeters in diameter. The larger areas were often somewhat uneven both in elevation and outline. Those larger areas showing calcification often showed tendencies to aneurismal dilations. Calcification could usually be recognized grossly in the larger lesions, and often in the smaller ones, by the more opaque white appearance of the lesion and by the gritty character when touched with a needle or scalpel. The lesions were most frequently found in the thoracic aorta, especially about the mouths of the branching vessels, often as an aggregation of pin-point areas, sometimes as larger plaques. They were frequently observed in the abdominal aorta and less frequently in the iliac arteries. Here also there was a greater tendency for them to appear about the

2. The duration in days of each experiment can be obtained by dividing these numbers by 3, as each rabbit received 3 injections daily.

mouths of the branching vessels, as in the thoracic region. In one of the injected rabbits and in two of the non-injected ones the changes were most profound, extending throughout the thoracic and abdominal aorta and well down into the iliacs. In these three cases large calcified bulging plaques were present, rendering the entire vessel rigid and brittle and the inner surface very uneven.

Microscopically a great variety of conditions was seen, varying on the one hand from simple degeneration of the muscle elements in small areas or bands in the media, their nuclei staining poorly or not at all, the other elements apparently being normal, to complete necrosis of all the elements, of a large portion of the media and intima with softening or calcification, at the other extreme. Apparently there results first a necrosis of the muscular elements with a tendency of the elastic elements soon to lose their normal wavy character and to appear straightened out or "stretched," as some writers have described it. Later the necrosed elements appear granular or hyaline; they may apparently undergo softening and calcification without much apparent reparative reaction, the vessel wall in this case being thinned and, if the area be of considerable size, showing

Fig. 5.—Gross drawing of arteriosclerotic atrophy of kidney, described above. Drawn by Mr. H. L. Benson; ×2.

a tendency to aneurismal bulging. Or there may occur in other cases a marked hyperplasia, resulting in a dense cellular infiltration about the necrotic area, later invading it and giving rise to new-formed connective tissue bringing about a thickening of the vessel wall. All gradations between these two extremes, and involving both the degenerative and reparative processes, were found.

The lesions apparently begin most frequently at or near the inner portion of the media, soon involving the intima, but it is by no means uncommon to see lesions in the middle or deeper portions of the media or, less frequently, involving the outer portion of the media and adventitia.[3]

ADDED NOTE BY DR. O. P. JOHNSTONE.

During the present summer quarter at the University of Chicago nine apparently normal rabbits were killed in experimental work by Dr. Wells and myself. I carefully examined the aorta of each, grossly, and three of the nine have shown decided lesions. The first one found showed many pin-point calcified lesions in the thoracic aorta, most numerous about the mouths of the branching vessels, and a few similar lesions in the abdominal aorta. All the lesions were small, raised, often somewhat angular in outline, opaque-white in color, the larger portion being calcified. The kidneys of this rabbit grossly were those of a typical arteriosclerotic atrophy (Fig. 5). On section the aorta showed lesions similar to those described by Dr. Miles, of all degrees from slight necrosis of the muscle elements to the other extreme of extensive necrosis with softening and calcification; also many lesions in which hyperplasia was the predominant feature, and others involving both processes. The kidney histologically showed the changes of an arteriosclerotic atrophy, there being very numerous areas of connective tissue hyperplasia, recent and old, and at the base of some of these areas were observed vessels with walls markedly thickened, and in one case a small vessel completely occluded by an old organized thrombus. The liver histologically showed moderate cirrhosis, although there was no gross evidence of this.

The second rabbit with lesions in the aorta showed five areas in the thoracic portion, pin-head sized, circular, raised and somewhat less translucent than the normal vessel wall. Histologically these lesions were of the hyperplastic type and involved about one-third the thickness of the media. This rabbit was about two-thirds grown.

In a third rabbit, which was about two-thirds grown, the thoracic aorta showed three lesions, the largest being two millimeters in its longest diameter by one millimeter broad, semi-translucent, raised, its surface slightly roughened and apparently of the hyperplastic type. Another lesion was circular, one millimeter in diameter, raised, surface roughened, and showed numerous opaque white pin-point sized areas as of calcification. The third lesion was a pin-point sized white, pointed elevation. They had not been examined histologically.

In a fourth rabbit no lesions were found in the aorta, but the kidneys showed the same picture grossly and microscopically as described above but not so extensive. This was also a young rabbit.

Thus three out of nine apparently normal rabbits here showed decided lesions in the aorta, and in a fourth were lesions of the kidney; these if added to the forty-nine in Dr. Miles' report would make fifty-eight "normal" rabbits, of which twenty showed lesions in the aorta, or 34.48 per cent.

3. The above work was carried out under the direction of Dr. O. P. Johnstone, Professor of Pathology, University of Colorado.

THE NEPHELOMETER:

AN INSTRUMENT FOR ESTIMATING THE NUMBER OF BACTERIA IN SUSPENSIONS USED FOR CALCULATING THE OPSONIC INDEX AND FOR VACCINES.*

JOSEPH McFARLAND, M.D.
PHILADELPHIA.

Those who have used the method of Leishman or the later method of Wright for estimating the phagocytic or opsonic indexes of the blood well know that it is essential to use bacterial suspensions containing uniform numbers of bacteria in order to secure uniformity of results. If the suspension used for one estimation contains twice as many bacteria as that used at another the results will vary, though not mathematically, according to the density of suspension.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

The method recommended by Wright is ingenious though cumbersome and depends on the actual enumeration of the bacteria contained in the suspension, and is accomplished by mixing a given volume of the bacterial suspension with an equal volume of blood, dropping a diaphragm with a small aperture into the eyepiece of the microscope, and then counting the number of blood corpuscles and bacteria in each of a number of microscopic fields. The computation that follows is a simple one. There are 5,000,000 red corpuscles in one cubic millimeter of blood, so that if the number of bacteria equal the number of corpuscles seen there are 5,000,000 per cubic millimeter; if there are two bacteria to a corpuscle, 10,000,000, etc. Proper conditions for the enumeration are secured by diluting with salt solution, so that both bacteria and erythrocytes can be conveniently counted, the proper allowances being made in the calculation.

Though this method enables one to find out how many bacteria are contained in any given suspension, it does not afford any means for preparing a suspension that shall contain any given number of bacteria. This is a matter of little importance from Wright's point of view, as by once calculating the number of bacteria, the dosage of the particular suspension when used as a vaccine can always be easily calculated, but in case one varies the technic of making the phagocytic or opsonic

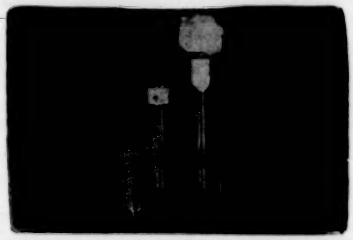

Fig. 1.—Early form of nephelometer made with a box-lid.

calculations, and especially in working with tubercle bacillus suspensions which can be kept from week to week, it seemed convenient to provide some method by which uniform suspensions could be prepared from time to time as they might be needed.

The method that suggested itself was that of using the opacity of the suspension as an index to the number of bacteria it contained and devising some standard by which this opacity could be regulated.

It was this idea that materialized in the form of the simple instrument to which the name *Nephelometer* (νεφελη the mist), has been applied.

In the simple form shown in Fig. 1 this instrument was shown at a meeting of the Society of American Bacteriologists at Ann Arbor, Mich., Dec. 28, 1905, and an account of it and its uses published[1] in 1906.

The most approved form of the instrument, and the one now in almost daily use in my laboratory, is shown in Figure 2, and is sufficiently simple to need no detailed description.

It consists essentially of a series of standardizing tubes containing a suspension of fine precipitate approximating bacterial suspensions in opacity and a holder for making their comparison easy. The standard suspensions used are precipitates of barium sulphate made as follows: Two solutions, one a 1 per cent. solution of chemically pure sulphuric acid, the other a 1 per cent. solution of chemically pure barium chlorid, are prepared, then the one added to the other so that ten standards, containing 99 c.c. of the sulphuric acid and 1 c.c. of the barium chlorid; 98 c.c. of the sulphuric acid and 2 c.c. of the barium chlorid; 97 c.c. of the sulphuric acid and 3 c.c. of the barium chlorid., etc., are prepared. According to the number of cubic centimeters of barium chlorid added, these are denominated 1, 2, 3, 4, etc. About 3 c.c. of each standard solution is sealed in a small test-tube, care being taken to use tubes of uniform diameter, and also to provide similar tubes for mixing the bacteria to be compared with the standard.

Experience has shown that Standard 3 is most appropriate for staphylococci, and that the average phagocytosis for normal human blood when the corpuscles are mixed with this suspension and incubated 30 minutes at 37 C. is 15 bacteria per polymorphonuclear leucocyte. For the tubercle bacillus the most appropriate density is No. 5, and the average normal phagocytosis 3 bacteria per cell.

If the colorless barium sulphate suspension is difficult to compare with the yellowish or brownish bacterial suspensions this difficulty may be overcome by placing a

Fig. 2.—Improved form of nephelometer made with a label box and a thermometer case.

ground glass screen before the tubes and comparing the suspensions by the use of an artificial (candle) light.

The modus operandi of using the instrument is very simple. The standard tube appropriate to the experiment is selected, well shaken, stood in the left hand pocket of the instrument and a tube containing sterile salt solution stood in the other. The surface growth of the bacterium to be suspended is taken up with a platinum loop and stirred in, rubbing the bacterial mass on the side of the tube just above the surface of the liquid and gradually adding the fluid to it by tilting the tube so as to avoid suspending masses of the culture. When the mixture appears homogeneous a comparison is made by looking through the instrument against the sky. If the density be insufficient more bacteria are added; if it be too dense, fluid can be added drop by drop from a medicine dropper or, what is better, the tube can be given a few turns in the centrifuge, by which the larger clumps of bacteria are thrown down and compared again. One should not be content with the comparison until the suspension be tried with others of the standard tubes than that which one intends to imitate. It is surprising at times to see how what is thought to be an exact equivalent will turn out to be 1 per cent. more or less dense.

1. Observations on the Phagocytic Power of the Blood of Supposedly Normal Human Beings, Medico-Chirurgical College Bulletin, i, 3, 5. January, 1906, and Medicine, xii, 4, 247, April, 1906.

When the density of a ready-prepared vaccine is to be determined the procedure is varied by making the tube containing the vaccine the standard of comparison and varying the standardizing tubes until its density is fully determined.

Those who are constantly working in this field will do well to determine once for all the number of bacteria represented by each standard of density and to make a little table for future use.

A modification that is sometimes to be preferred to the fixed standards is that of comparing the new suspension with the previously used suspension until exact uniformity is secured. The disadvantage of this method is that slight variations may pass undetected unless always compared with the fixed standards, and that, if the density of the suspensions used are not measured by some fixed standards, exact repetition either by the experimenter himself or by those who try to repeat his work will be impossible.

THE SPECIFIC NATURE OF OPSONINS.*

JOSEPH McFARLAND, M.D.
AND
EDWARD M. L'ENGLE, M.D.
PHILADELPHIA.

In the course of certain experiments it became important for us to inform ourselves as accurately as possible as to the absolute or relative specificity of opsonins, the close resemblance in nature between opsonins, precipitins, agglutinins, etc., preparing us for the statement that they are specific.

This is not, however, as yet entirely proved. Wright and Douglas and Bullock[1] seem satisfied about it, and Bullock made experiments as follows: Serum was digested with staphylococci at 37° C. (98.6° F.) and then freed of the organisms by centrifugalization, after which it was found to have lost all opsonic power for staphylococci, though it largely retained that for tubercle bacilli. Conversely, when digested at 37° C. (98.6° F.) with tubercle bacilli and then centrifugalized, it had lost the opsonin for the tubercle bacillus, though it retained it for the staphylococcus.

Potter, Ditman and Bradley,[2] however, came to different experimental results by employing a different technic. They used a pool of four normal bloods, which was divided into three parts and placed in tubes. In one tube staphylococci were thoroughly mixed with the serum; in another, colon bacilli were mixed with the serum, and the third tube was used as a control. The tubes were placed in an incubator at 37.5 C. (99.6 F.) for forty-five minutes and at the end of that time were subjected to centrifugalization at high speed for thirty to forty minutes. The serum digested with staphylococci showed an opsonic index (the control being taken as 1.0) against the staphylococcus of 0.55, against the colon bacillus of 0.12. The serum digested with the colon bacilli gave an index against the staphylococcus of 0.26, but against the colon bacillus of 1.4. From this they conclude that staphylococci take from the serum not only the opsonin for the staphylococcus but also that for the colon bacillus and vice versa.

The behavior of hemopsonins seems to be confirmatory of the specific nature of these bodies. Savtchenko,[3] Levaditi[4] and Gruber[5] all observed that the injection into the peritoneal cavity of guinea-pigs of the serum of rabbits immunized with guinea-pig blood is followed by a marked erythro-phagocytosis not only in the abdomen but also in the blood-making organs, especially the spleen, and even in the circulating blood.

Ruziczka[6] noticed the occurrence of phagocytosis *in vitro* of red corpuscles in the presence of corresponding immune serum.

Neufeld and Töpfer[7] found that the blood of rabbits immunized with goat's blood contains a substance that, after absorption by them, renders goat corpuscles subject to phagocytosis by guinea-pig leucocytes *in vitro*. This substance, which they designated as hemotropic, has no direct action on the leucocytes.

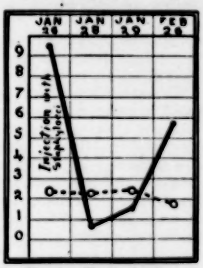

Fig. 1.—Chart showing result of former experiment. Solid line, index to staphylococcus; broken line, index to tubercle bacillus.

Hektoen[8] seems to have been the first to identify this hemotropic substance with opsonin. Barrett, Neufeld and Töpfer, and Keith[9] found the hemopsonins distinct from the hemolytic amboceptors.

The fact that it took some time to differentiate these hemopsonins from the hemolytic amboceptors shows that there are close resemblances between them, of which specificity of action is one. Hektoen[10] found that "immune hemopsonic serum may contain common or non-specific hemopsonins as well as hemopsonins directed particularly against the corpuscles employed for the injection."

We attacked this problem differently. We first determined the phagocytic (i. e., opsonic) power of a rabbit's blood against staphylococci and tubercle bacilli

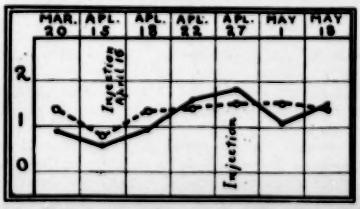

Fig. 2.—Chart showing index of both yeast rabbit and blood rabbit to yeast. Solid line, yeast rabbit; broken line, blood rabbit.

respectively and then vaccinated the rabbit with a large dose of dead staphylococci. If the result was, as we expected, a negative followed by a positive phase of opsonic disturbance for the staphylococci, without any corresponding effect on the tubercle bacilli, it would be in favor of the specific nature of the reaction. The following results were obtained:

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

1. Lancet, Dec. 2, 1905, 1603.
2. THE JOURNAL A. M. A., Nov. 24, 1906, and Dec. 1, 1906.
3. Ann. de l'Inst. Pasteur, 1902, p. 106.
4. Ann. de l'Inst. Pasteur, 1902, p. 233.
5. Wien. klin. Wochschr., 1903, xvi, 1907.
6. Quoted by Gruber.
7. Centrbl. f. Bact., 1905, xxxvii, 456.
8. THE JOURNAL A. M. A., 1906, xlvi, 1407.
9. Proc. Royal Soc. of London, 1906, lxxvii, 537.
10. Jour. Infect. Dis., Oct. 30, 1906, iii, 721.

Jan. 26, 1907: Healthy rabbit blood tested for phagocytic activity of the corpuscles against suspension of *Staphylococcus pyogenes aureus*, No. 5 (nephelometer scale), and tubercle bacillus emulsion, No. 10, made Jan. 10, 1907: Staphylococcus, 9.5, average cocci per leucocyte. Tubercle bacillus, 2.4, average cocci per leucocyte.

The rabbit was now given 1 c.c. of No. 5 staphylococcus suspension (nephelometer scale) under the skin of the back and tested Jan. 28, 1907: Staphylococcus, 0.6, average cocci per leucocyte (negative phase). Tubercle bacillus, 2.3. The blood was again tested Jan. 29, 1907: Staphylococcus, 1.3. Tubercle bacillus, 2.4.

Nothing was done until Feb. 26, 1907, when the acme of the positive phase seems to have been passed, and the following counts were made: Staphylococcus, 5.8. Tubercle bacillus, 1.8.

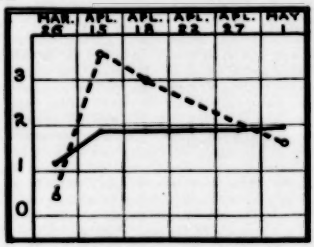

Fig. 3.—Chart showing index of both rabbits to staphylococci. Solid line, yeast rabbit; broken line, blood rabbit.

These results are graphically shown in Figure 1. It will thus be seen that the injection of staphylococcus vaccine causes a marked alteration in the phagocytic activity of the leucocytes toward staphylococci, though it fails to influence the activity of the leucocytes toward tubercle bacilli, which seems to us a confirmation of the specific nature of the opsonins.

It is important to mention, in connection with experiments to be recorded below, that there was no control test made on the blood of the animal injected with

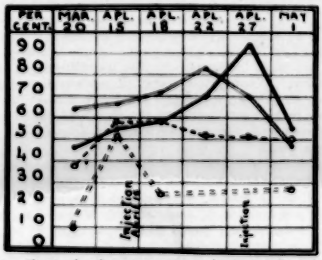

Fig. 4.—Chart showing percentage of phagocytic cells (polymorphonuclear leucocytes). Solid single line, yeast rabbit and yeast; broken single line, yeast rabbit and staphylococci; solid double line, blood rabbit and yeast; broken double line, blood rabbit and staphylococci.

the tubercle bacillus, as it unfortunately died, so that no conclusions should be based on this single experiment.

In pursuance of the investigation we proceeded as follows:

One of two rabbits was given periodical subcutaneous injections of a suspension of a glycerin agar-agar culture of a lactose-fermenting yeast isolated by Professor Russell of Wisconsin, killed by heating to 100 C. (212 F.). Another rabbit received a number of intraperitoneal injections of washed human blood corpuscles suspended in physiologic (0.85 per cent.) sodium chlorid solution. The blood of both rabbits was frequently examined for its phagocytic (i. e., opsonic) power against the yeast cells, against staphylococci and against human erythrocytes.

If the opsonins were truly specific in action, as had been our previous conception, the serum of the rabbit receiving the yeast should become highly opsonic for yeast. That of the rabbit receiving the erythrocytes, for red blood opsonic corpuscles, but neither blood should in any manner change in its opsonic relation toward the staphylococcus. Contrary to our expectations and to

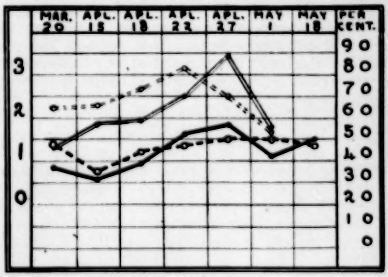

Fig. 5.—Chart showing comparative results of estimations according to Wright's method and Simon's method (yeast). Solid single line, average number of bacteria per cell in yeast rabbit; broken single line, average number of bacteria per cell in blood rabbit; solid double line, percentage of phagocytic leucocytes in yeast rabbit; broken double line, percentage of phagocytic leucocytes in blood rabbit.

the observation recorded above, but in accord with the results of Potter, Ditman and Bradley, such definite results were not forthcoming. The blood of the rabbit receiving the yeast increased its phagocytic action for the yeast cells; that of the rabbit receiving the human erythrocytes became phagocytic for human erythrocytes,

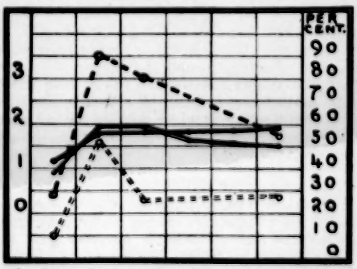

Fig. 6.—Chart showing comparative results of estimations according to Wright's method and Simon's method (staphylococci). Solid single line, average number of bacteria per cell in yeast rabbit; broken single line, average number of bacteria per cell in the blood rabbit; solid double line, percentage of phagocytic leucocytes in yeast rabbit; broken double line, percentage of phagocytic leucocytes in blood rabbit.

but the blood of both rabbits underwent a remarkable change in activity toward the staphylococcus, this reaction being so paradoxical that we are at a loss how to account for it.

The graphic records of these experiments are of considerable interest. Figure 2 shows by chart the increase

of the phagocytic (i. e., opsonic) power of the blood of the rabbit receiving the injections of yeast and of the rabbit receiving the injections of washed blood corpuscles, both toward the yeast cells. The increase in the yeast rabbit was less than was expected, but at first glance the result appears gratifying and apparently positive. A careful comparison of the two indices (that of the yeast rabbit with that of the blood rabbit) will show, however, that such an interpretation is erroneous, as the continuous line which displays the behavior of the yeast rabbit to yeast is closely paralleled by the broken line which shows the behavior of the blood rabbit to yeast.

Most curious, however, is the record shown in Figure 3, which portrays the variations in the opsonic power of these bloods toward the staphylococcus; the abrupt rise and subsequent steady decline in the case of the blood rabbit and the slight but permament rise in the case of the yeast rabbit bearing no relation to what is shown on the other charts.

The only explanation that suggests itself to us is that offered by Hektoen[10] in his studies of the hemopsonins, that some are specific and some only partially specific. It seems to us that what is true of the hemopsonins may also be true of bacterio-opsonins, and that the injection of yeast cells is followed by the development of a small quantity of specific opsonin for yeast cells and a considerable quantity of non-specific opsonin that acts on the staphylococcus. If this be true of the yeast, are we also to believe that it is equally true of the effect produced by the injection of erythrocytes, and if this be the correct explanation of the paradoxical findings, how are we to account for the permanence of the staphylococco-opsonin in the case of the yeast rabbit and its decline in the case of the blood rabbit?

Simon has emphasized the importance of relying on the percentage of phagocytic cells as an index of the opsonic power rather than on the average number of bacteria in the cells, as suggested by Wright and Douglas, and in the paper by Simon, Lamar and Bispham[11] there are numerous comparisons which seem to favor Simon's method. In the experiments which form the basis of this paper we have made all of the estimations according to both of these methods, and have tabulated them in order that they may be easily compared. Figure 4 shows the four curves already given as calculated by Simon, and Figures 5 and 6 comparisons between Wright's and Simon's methods. From these charts it seems to us that one is justified in concluding that it makes little difference by which method the calculations are made, though observations that are to be compared with one another should be made by the same method.

DISCUSSION.

DR. D. H. BERGEY, Philadelphia, referred to the work done by his associate, Dr. Gildersleeve, who has treated some fifteen or eighteen cases of different kinds of infections. Dr. Gildersleeve found that as far as the opsonic index is concerned he can rely on it, though it is one of those things that requires infinite patience and the greatest possible care. Dr. Bergey said that the number of leucocytes that one counts, the uniformity of the temperature at which one incubates, always at the same temperature and for the same length of time, the relative number of bacteria, and that one has a proper suspension of leucocytes, are factors that must be absolutely controlled, because unless that is done it leads to uncertain results. Dr. Gildersleeve also found that the leucocytes take up the bacteria in about the proportion that they are expected to do when stimulated by the serum of a normal individual, or stimulated by the serum of an individual suffering from the different forms of infection. The types of infection treated have been sycosis, furunculosis, and mixed infections in tuberculous sinuses, and Dr. Gildersleeve has had most interesting results, especially in these sinus cases. He has made it a point, wherever possible, to use as his vaccine the organisms isolated from the patient himself, and Dr. Bergey thought that possibly that may acount for the results obtained.

DR. FRANK SMITHIES, Ann Arbor, Mich., has not found the nephelometer described by Dr. McFarland of sufficient accuracy to insure its use. The methods of making bacterial suspensions—for vaccines or for test emulsion—varied so much that the nephelometer had never appeared to him to be of any great value. Different strains of the same organism, whether the suspensions were made by merely shaking up the culture scrapings in normal salt solution, or whether these scrapings were first ground up in an agate mortar, were all factors which altered the bacterial suspensions, in respect to opacity, and also in regard to the number of organisms contained. For rapid work, he had found the nephelometer of some value, but where there was any aim at scientific accuracy, he did not consider it advisable to make use of it. Especially did he consider this the case if the results of one's work were to be made the basis for reports. He thought that the errors arising from the use of the nephelometer might explain some of the variations in the opsonic curves which some observers reported. Regarding the conclusion that the opsonic index can scarcely be relied on for control of therapy, he stated that while there is much to be desired in the way of improvements in technic, he had found that by carefully and minutely following the published accounts of the Wright method, it was possible to reduce the range or error to within 10 per cent. Captain Walker, U. S. N., working in the laboratory at the University Hospital, had recently conducted a series of experiments which had enabled one to determine the opsonic index with but very slight variations. The experiments of Captain Walker consisted, in brief, of mixing different strengths of sera and bacterial suspensions with leucocytes, and submitting them to varying periods of incubation. He showed that phagocytosis is an early process during incubation, and that unless sera are diluted before being mixed with bacterial suspensions and leucocytes, it is possible to have very wide differences in opsonic curves. Acting on the results of this investigation, it has become the practice at the laboratory to dilute sera from ten to twenty-five times before attempting the estimation of the index. Dr. Smithies said that another source of error had been discovered as the work progressed. It had been noted that in the making of suspensions, when the water of condensation was included, even in very slight amount, there were variations in the sensitization of the bacteria. Consequently, one must consider the differences that may be shown in opsonic curves when some suspensions are made by merely shaking up cultures with normal salt solution, including the water of condensation generally, and when emulsions are made from bacteria that have been ground up in an agate mortar. He considered that the latter practice was by far the most satisfactory, even though it took much more time.

He urged the necessity for conservatism in the use of specific vaccines in the treatment of disease. He had seen good results follow their use, but he had also observed results which had not come up to expectations. He did not, however, think that conservatism should sink to the depth of pessimism, just yet, nor that we should control our mental attitude toward this new system of therapy by the varying results of a few observations, made under entirely different conditions, by different men. Rather we should seek to accumulate data in the most accurate and unbiased manner, taking advantage of every new improvement in technic, making controls, frequently, and watching carefully the effects of our bacterial injections on patients. Only by so doing can any definite conclusions regarding this system of therapy be arrived at.

DR. N. B. POTTER, New York City, was inclined to believe that many of the inaccuracies of the opsonic index depend on whether the leucocytes were from different persons or not. He mentioned the results obtained in a few cases of pneumococcus, streptococcus, staphylococcus and tubercle infections studied with the idea of determining the variations in the

11. Jour. Experimental Med., 1906, viii, p. 651.

"leucocytic power." In pneumonia he found that the opsonic index is depressed before the crisis, it rises about the time of the crisis, and remains above normal for some days after the crisis; that the leucocytes from the patient with pneumonia do not phagocyte as actively as the leucocytes from a normal patient. After the crisis, though, the patient's leucocytic power was a great deal higher proportionally than the index and gradually returned to normal. He obtained similar results in staphylococcus, streptococcus and tubercle infections. Hence, he thinks that the leucocytic power is something to be considered in estimating what bacterial vaccines have done.

DR. E. M. HOUGHTON, Detroit, Mich., and his co-workers early found that it was very desirable to follow Wright's technic most carefully in making opsonic determinations when administering the vaccines. The results have been varied. In the staphylococcic infections the results were better than in the other infections. In tuberculosis there has been a certain amount of encouragement. In chronic gonorrhea, particularly in gonorrheal rheumatism, the results have been encouraging, and in two or three cases of acute gonorrhea the results were encouraging, but not definite. The variations in the opsonic index have not been as great as others have found in their work. On the whole, it runs something like 10 per cent. Not all patients have been benefited. Dr. Houghton thought that, considering the results obtained, and recognizing the general factors in the problem, that the whole subject is an experiment; that it is too early to draw conclusions, but that the subject is worthy of most careful study and consideration in order that we may determine just how the index can be determined with the least trouble to the clinician and give the most uniform results.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA.

NICHOLAS SENN, M.D.
CHICAGO.

II. RIO DE JANEIRO.*

Rio de Janeiro, the capital city of Brazil, has at present a population of nearly 700,000. The city forms a crescent around the magnificent harbor and reaches inland among the foothills of the coast range of mountains. Nature has surrounded this city with a scenery unsurpassed in grandeur and beauty, consisting of the broad expanse of the bay as a foreground, and the verdant Organ Mountains with their lofty peaks as a pleasing background. The bay is jeweled with more than a hundred islets, which appear like so many emeralds set in sapphire blue, and the city is partitioned by a number of hills whose primeval forests have not been touched by the rude hand of man. There are many larger and fairer cities than Rio de Janeiro, but none has such grand and beautiful alpine scenery surrounding it. Although it was midwinter at the time of my visit, the deep tropical green of mountains, hills, valleys, gardens and lawns remained in its virgin purity, and flowers were blooming on every side, making one forget that it was winter time. The tropical beauty of the environment of Rio de Janeiro seen in winter time, so entirely different from anything I had ever seen before, would have been a sufficient recompense incident to a voyage to this far-off city on the other side of the equator, but my greatest gratifications came with the investigation of the medical institutions of the country, and more especially of Rio de Janeiro, the results of which it is my purpose to describe as briefly as possible in this communication.

* Chapter I was published September 14.

MEDICAL COLLEGE OF RIO DE JANEIRO.

The republic of Brazil has three medical colleges, one in Rio de Janeiro, one in Bahia and the third in Rio Grande do Sul, the last being a private institution owned and managed by the faculty. The Bahia Medical College was described in my first communication.* The Medical College of Rio de Janeiro was founded ninety-nine years ago, and preparations are already being made to celebrate its first centennial next year. It is near the bay and adjacent to the Misericordia Hospital. It comprises a number of buildings, most of them two stories high with open courts between them. It has at present an attendance of 1,700 students, among whom are 12 women. The students are required to attend lectures and clinics for six years before they can come up for the final examinations. The different laboratories for histology, chemistry, pharmacy, pathology, bacteriology and hygiene are all fairly well equipped, and are well attended by the students who are impressed by their teachers with the importance of this part of their education. The dissecting room and the large well-lighted hall for operations on the cadaver are all that could possibly be desired; in fact, far better than in most of our medical colleges, and are abundantly supplied with well-prepared and well-preserved material. The injected bodies are kept in tanks immersed in an antiseptic solution, which keeps the soft tissues in a pliable condition. Didactic teaching has largely given place to clinical instruction and laboratory work. I was particularly pleased to observe that hygiene and sanitation receive more attention than in our medical schools. The college has a well-selected library of 9,117 volumes and monographs. Dr. Leas de Aquarina is the librarian. One hundred medical journals are kept on file, among which I noticed the *Annals of Surgery* and the *American Journal of the Medical Sciences*. I suggested to the librarian that if it was his object to keep in touch with medicine in America and the medical literature of the world he must add to the list of journals the official organ of the American Medical Association.

Fig. 1.—Misericordia Hospital, Rio de Janeiro.

The students are as lively and inquisitive here as elsewhere, and when I made the tour through the different departments under the guidance of some of the professors, a large crowd followed us and showed the keenest interest in what was going on. French text-books are used almost exclusively, and it is only recently that German literature is beginning to be appreciated. One of the conditions of graduation is the preparation of a thesis which, if accepted, is printed. The regular clinics are given in the Misericordia Hospital. Much stress is placed on bedside instruction. Four to twenty students

follow the professor from bed to bed and from ward to ward as he makes his daily round. New cases are presented and discussed in a low conversational tone, and the students are given an opportunity to examine the patients. The progress of the cases is watched by teacher and students from day to day, and in this way the latter obtain a complete clinical history of all cases presented. The amphitheaters, both in the medical school and in the hospital, are small, with a seating capacity that does not exceed one hundred. The faculty of this school has grasped the correct idea of how to teach the primary and practical branches of medicine by encouraging laboratory work and by giving clinics to small classes.

MISERICORDIA HOSPITAL.

The Misericordia is the principal hospital of Rio de Janeiro. It is built on the spot where Magellan landed in 1520 on his voyage around the world. The orginal building is more than 200 years old and is built in typical Spanish style of architecture. New buildings, all of them constructed of rough brick and outer stucco work and two stories high, have been erected from time to time as the number of patients applying

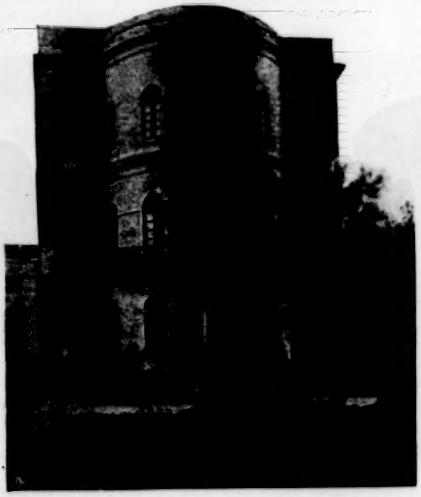

Fig. 2.—Anatomico-Pathologic Laboratory. National Insane Asylum, Rio de Janeiro.

for relief increased. At present the capacity of the institution is 1,200 patients, but at the time of my visit the hallways were occupied by dozens of patients who slept on mattresses placed on the floor, and by such an overcrowding it often has to furnish shelter for 1,500 patients. Like all Portuguese and Spanish hospitals, the different buildings are separated by open courts, which serve as little gardens or parks, and contribute much to the comfort of the patients and the homelike appearance of the institution. The hospital has several excellent operating rooms for septic and aseptic cases, a number of dressing rooms and a good supply of surgical instruments and apparatus for disinfection of patients' clothing and sterilization of instruments and dressings. It also has accommodations for a limited number of private patients, in 24 rooms and small wards. The first-class patients have a room alone, for which they pay $2.50 a day; the second-class patients are placed two in a room, for which each pays $1.25 a day. The third-class patients occupy small wards and pay about 60 cents a day. The great mass of patients are charity cases, and are placed in very large wards with a high ceiling and supplied with an abundance of light and fresh air. The patients are cared for by 60 Sisters of Charity of St. Vincent de Paul, who are assisted by orderlies in their ward work. Preparations for operations are made by students and assistants. There are at present 140 assistants in the hospital. They are selected by competitive examination, to which only graduates of medicine are admitted. The appointment is not fixed for any fixed time, as they can remain as long as they desire if their service is satisfactory. Each of the twelve regular clinical professors has two assistants who look after his cases. The remaining assistants perform such functions as are assigned to them. A movement is now on foot to establish a training school for female nurses in this the largest hospital in the city, and this addition to the hospital can not be made any too soon, as skillful scientific nursing has become a necessity in any hospital which pretends to keep pace with modern progressive medicine. The lying-in department of this hospital is large, as I counted about 30 women who were waiting their turns to be confined. I was shown a young negress who had undergone a Porro operation at eight months, seven days before, and the mother and infant were both doing well. In the children's department boys and girls are kept in separate wards. One of the large pavilions, where formerly yellow fever patients were treated, is now empty, but is kept in readiness should a new outbreak of this disease occur. Inspection of the mammoth kitchen proved the abundance and good quality of the food furnished the patients. A large modern bath house, Roentgen room and a large assortment of electric appliances were satisfactory indications that in many things this old hospital has kept pace

Fig. 3.—Main building, Leper Asylum, Rio de Janeiro.

with the scientific spirit of modern times. In the out-department a physician is on duty night and day to render first-aid and attend to emergencies of all kinds.

INSANE ASYLUM.

The Insane Asylum (Hospicio Nacional Aliendos) is a federal institution supported and managed by the federal government. We visited this great charity institution under the guidance of Mr. Oscar Rosas, of the *Journal de Brazil*, the best known and most influential daily newspaper in Brazil. Accompanied by one of the physicians we visited the different departments and saw insanity in all its endless forms, from the most listless melancholic to the raving form of this terrible disease; from the happiest paranoiac to the most dejected paralytic. The hospital is situated near the shore of the bay and consists of a complexus of one and two-story pavilions, with ample garden spaces between them. Here are lodged 1,200 insane of all ages and of many races and mixture of races, who are under observation and treatment with a view of correcting, if possible, their mental declivities. In glancing over the hospital record, I noticed that, under the head of causes, alcohol was mentioned most frequently. Coal-black

negroes, Portuguese, Brazilians and all kinds of half-castes were about equally represented in the motley crowds on the male and female sides of the hospital. Many of the women were engaged in useful occupations, sewing, knitting, embroidering and making artificial flowers. Others were running about wildly in a large inclosure, shouting, laughing and scolding. Restraint is practiced as little as possible. Dr. Juliano Moreiva, a young negro physician of acknowledged ability, is the director of the hospital, and is at the same time one of the professors in the medical college and joint editor of the journal on insanity and nervous diseases. Four years ago

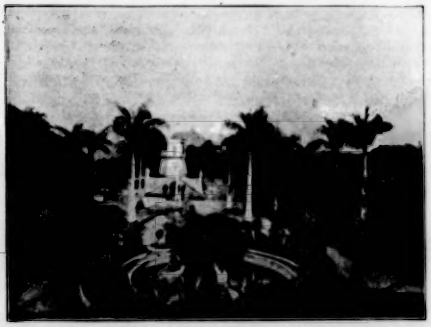

Fig. 4.—Garden of the Leper Asylum, Rio de Janeiro.

while traveling and studying in Europe, he met and in due time married a pretty, blonde Hanoverian girl, and at the present time he is again touring Europe with his young wife. He speaks besides Portuguese, French, German and Italian fluently. Dr. Alvaro Ramos is the operating surgeon. A large staff of assistant physicians carries out the work outlined by the director. The baths, electric appliances, instruments of precision in diagnosis and gymnasium are on a par with, if not better than, those of our own asylums. An excellent laboratory (Fig. 2) furnishes all the facilities for scientific investigations and original research work. From this institution

Fig. 5.—St. Sebastian Hospital, Rio de Janeiro.

have come some of the most important communications pertaining to the study of mental diseases. In the female department I saw a negress who was violently insane and who was the subject of microcephalic skull and stunted body growth. The youngest patient was a boy not more than 12 years old, bright looking, but his mind clouded by a quiet form of insanity.

LEPER ASYLUM.

The leper asylum (Hospital dos Lazaros) is a charitable institution built, supported and managed by the rich congregation of the Candelaria Church. It was founded in 1752. The building (Fig. 3) is old and the present number of inmates is 74, 50 men and 24 women. The tubercular form affects most frequently the negroes, and the anesthetic form, the Portuguese and the mixed races. All of the patients are charity cases. Physicians, surgeons and specialists visit the asylum at regular periods, and are paid for their services out of the church fund. The patients are admitted on their own application, as there is no law compelling and enforcing segregation. The hospital has excellent facilities for cold and hot water and steam baths, and a good laboratory.

MILITARY HOSPITAL.

This is a new and the most modern hospital in Rio de Janeiro. It is located in the outskirts of the city, and consists of a number of two-story pavilions built in ample grounds, well laid out in walks and drives, and planted with trees. One pavilion contains two fine operating rooms, one of which has a glass, the other a tile floor. The operating tables and sterilization apparatus are of the latest and most improved pattern, and the surgical instruments are the very best which could be bought in Europe. The present number of patients exceeds 200, among them a number of veterans of the many past wars. One of these lost his leg by artillery fire thirty years ago. All officers of the regular army and 12,000 soldiers stationed in and about Rio de Janeiro are entitled to treatment in this hospital. The upper story of one of the pavilions is set aside for the treatment of diseases of the eye and ear. Fourteen Sisters of Charity of St. Vincent de Paul have charge of the nursing and are assisted in their

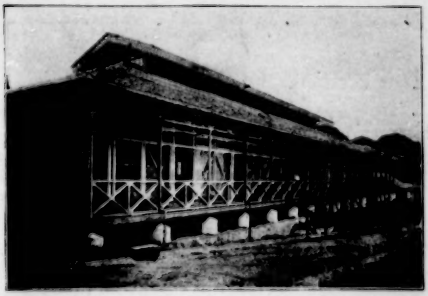

Fig. 6.—One of the pavilions, St. Sebastian Hospital, Rio de Janeiro.

ward work by orderlies. The hospital has a Roentgen room, laboratory and excellent gymnasium, the latter well furnished with apparatus and appliances for physical exercises and mechano-therapy.

ST. SEBASTIAN HOSPITAL.

This hospital (Hospital Sao Sebastiao) was founded in 1887 as a hospital for contagious diseases principally for the isolation and treatment of yellow fever patients, but it has also served as a refuge for other contagious diseases, such as bubonic plague, smallpox, diphtheria, etc. It has recently been very much improved and its scope of usefulness widened. Among other material improvements must be mentioned the additions of two paper-mache barracks constructed according to the plan devised by Daeker. It has an excellent disinfection and sterilization plant. The hospital has been alternately under federal and municipal control, but is now actually under the management of the Federal Board of Public Health. The main building (Fig. 5) and the different pavilions behind are situated on the steep slope of a hill which rises from one of the principal streets close to the harbor front. It has a well-equipped laboratory in which the attending staff and assistants do their scientific work and settle the diagnoses in obscure cases. At the time of my visit there were only a very few cases in the hospital, which can furnish accommodations for several hundred patients. Suspects are placed in fine meshed wire

cages. At the time of my visit one was thus screened, as on his admission he presented symptoms suggestive of yellow fever. Four cases of bubonic plague were under treatment in the same pavilion, three patients being convalescent and one slowly recovering from a very severe attack. This man was emaciated to a skeleton and the inguinal glands on both sides were very much enlarged. As soon as suppuration has sufficiently advanced, incisions will be made and the glands enucleated. It has been found here, as elsewhere, that early incision of these glandular swellings is more harmful than beneficial, and operative treatment is postponed until the general infection has spent its force and fluctuation has become distinct and superficial. During the last two months no well-marked cases of yellow fever have been admitted to the hospital, and the last patients received came from suburban towns. The physicians as well as the public take comfort in the thought that, for once, Rio de Janeiro is free from this scourge which has claimed so many victims, and which has done so much in retarding the progress of the country. A few cases of malaria were under treatment. As in Portuguese East Africa, the favorite method of administering quinin is by subcutaneous injection. A commission of three French physicians worked in this institution for three consecutive years in search of the microbic cause of yellow fever, but finally returned home no wiser than when they came. They lived in a separate house in the hospital grounds. Two German scientists remained for three months with the same object in view, but with no better success. A well-equipped little operating room serves a good purpose in the few cases requiring operative treatment.

Fig. 7.—Wire screen cages for isolation of yellow fever patients, St. Sebastian Hospital.

MATERNITY HOSPITAL.

The Maternity Hospital (Maternidade do Rio de Janeiro) was built three years ago with the financial aid of the general government, and its principal support for its maintenance is derived from the same source. It was intended for poor women who, when awaiting confinement, have no home where they can receive proper attention. It also receives a limited number of gynecologic patients requiring operative treatment. The hospital has 46 beds and is modern in every respect and well equipped. It is located on one of the principal thoroughfares near the bay. The location and grounds are admirably adopted for the purpose. Dr. Hugo Furquin Werneck, a distinguished and highly respected physician, is the chief obstetrician and operating surgeon. He received his postgraduate education in Germany, and speaks German fluently, a gift possessed by few physicians of the city. He is familiar with German medical literature and in his practice follows German methods. He is assisted by an able staff of assistants. This is the only hospital in the city where I found skillful scientific nurses. Three well-trained German female nurses care for the patients, make preparations for the operations and assist the surgeon in his work. Their example in this small German scientific circle will be a useful object lesson for the other larger hospitals, which, so far, are without trained nurses. It is to be hoped that the larger hospitals will soon imitate the Maternity Hospital in this regard. The obstetric and gynecologic departments of this model institution are conducted on ideal aseptic principles and practice, and the results have been eminently satisfactory. Of 51 abdominal sections all the patients recovered. These cases included 25 operations for myofibroma of the uterus; 4 for ovarian cyst; 19 for salpingo-oophoritis; 1 for diffuse endometritis polyposa; 1 for retroversion and 1 for uterine prolapse. The maternal mortality for one year in 308 deliveries was only 1.4 per cent. The deaths were due to puerperal eclampsia and infection contracted before entrance into the hospital. The outdoor department of this hospital has a large attendance.

FOUNDLING HOSPITAL.

This charitable institution (*Enfants Trouvés*) is located in the Rua Eravista de Veiga and has for years received and nursed annually hundreds of helpless infants which were thrown on the mercy of this world by imprudent, soulless young mothers. The number of illegitimate births in this as well as all large South American cities is astonishingly large. We would, *a priori*, expect this, as the Catholic Church condemns in the plainest language the crime of abortion, and has always held out a helping hand to the poor, innocent, helpless infants abandoned by their unfeeling mothers. This is especially true of Russia and South America, the two countries dominated to the greatest extent by the teachings of the Catholic Church. The Foundling Hospital of Moscow, as I know from personal inspection, is the best institution of this kind in the world, and those of South America are in many respects modeled after it. Infants are received and cared for, without any inquiry being made of those who bring them. They are adopted by the state, as in Russia, and are registered and numbered as such. Not infrequently the mother pins a card to the clothes of the infant, on which she writes the name she desires the child should bear, a request which is generally granted by the good sisters who take the place of the mothers. The child is put out to nurse for a year; then it is returned, and when old enough it is sent to school and reared in some useful employment. There has been no year since this infant asylum was opened, nearly two hundred years ago, in which less than 400 infants were received. Parents can reclaim children at any time by paying the expenses incurred by the asylum in caring for the child. A few public institutions like this in our large cities would exert a powerful influence in checking the too great prevalence of criminal abortion, and i.. so doing would save many lives, prevent crime and many a heartache.

RIO DE JANEIRO, July 27, 1907.

Medical Diagnosis.—Medical diagnosis is a complicated and difficult problem. Until the medical millennium arrives and every disease appears with its own pathognomonic tag, successful solution of the problem will generally depend on the intelligent balancing of clinical probabilities. These probabilities will vary in number and in value, and the highest faculty of the trained medical man, his judgment, will always be the supreme factor.—William N. Berkely, M.D., in the *Long Island Medical Journal*.

Clinical Notes

A NEW ADENOID CURETTE FOR ROSENMÜLLER'S FOSSA.*

J. F. BYINGTON, M.D.
BATTLE CREEK, MICH.

The occasional invasion of Rosenmüller's fossæ by adenoid vegetations, and my inability to remove them thoroughly by any instrument which has come to my notice, without at the same time doing injury to the cartilage of the Eustachian tube, has led me, after examination of cadavers and of the dimensions and position of this fossa, to devise the instrument here described.

A glance at the anatomy of the parts will show the desirability of clearing Rosenmüller's fossa if it is invaded by adenoid tissue. A cross section of the Eustachian tube near its pharyngeal orifice (Fig. 1) shows it to be composed of a cartilaginous and membranous portion. The section of the cartilage is U-shaped, with the opening downward. The posterior medial plate is wider vertically than the antero-external plate. The remainder of the periphery of the tube is the membranous portion, which occupies the greater part of the antero-external wall of the tube. The postero-medial,

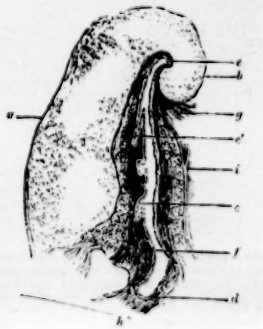

Fig. 1.—Cross section of the cartilaginous portion of the Eustachian tube showing the postero-medial cartilaginous wall, a, and the antero-external membranous wall, l. (From Politzer on the Ear, Fig. 45, p. 41.)

cartilaginous wall lies in contact with the antero-external, membranous wall during a condition of rest, but these two walls of the tube are separated during contraction of the levator palati and tensor palati muscles as in the act of swallowing. Rosenmüller's fossa (Fig. 2) is located immediately behind the postero-medial wall of the Eustachian tube. The fossa is deep, more so in the adult than in the child, and only about 5 or 6 mm. wide as a rule. It is situated between the unyielding posterior wall of the nasopharynx and the wall of the Eustachian tube.

While it is not usual for adenoids to originate in this space, broad, flat growths extending from the median raphé of the roof of the nasopharynx may extend into and invade the space. The growth seldom or never involves the cartilaginous part of the tube itself, but vegetations adjacent to it may press on the wall of the tube and interfere with the action of the levator and tensor palati muscles in opening it.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

Clinically we find two conditions requiring operation in this region: Adenoids in children, involving this region, and adenoids in adults, which have not been thoroughly removed during childhood. The latter growths are harder, and I have often observed caseous matter occupying the fossa, which is sometimes partially obliterated and obstructed by adhesions between the posterior wall of the nasopharynx and the posterior lip of the Eustachian orifice. The soft adenoids of children may be removed from this region with the finger nail, although this is not as aseptic a method as the use of an instrument. But the condition in adults, with adhesions and harder connective tissue growths, is not so readily operated on with the finger.

The instrument is a side-cutting curette, sharp on each side. The width of the loop antero-posteriorly (Fig. 3, c to e) should not be more than 5 mm. The upper portion of the loop inclines mainly downward and

Fig. 2.—Illustration of a specimen in the author's collection showing the location, dimensions and depth of Rosenmüller's fossa.

Fig. 3.—Adenoid curette for Rosenmüller's fossa. (Made by F. A. Hardy & Co., Chicago.)

backward (Fig. 3, a b) to correspond with the roof of the fossa. The vertical portion of the instrument (Fig. 3, h i) is long enough so that its upper cutting edges may be carried well up to the roof, and the line of direction of the posterior cutting edge (Fig. 3, c) makes an obtuse angle (Fig. 3, o) with the shank of the instrument, making it possible to bring the entire posterior cutting edges in contact with the postero-superior wall of the fossa and away from the posterior lip of the Eustachian orifice. The curette is sharp only on the posterior and superior portions of the loop (Fig. 3, d to c), the sharp edge ending at the uppermost part of the instrument (Fig. 3, d) at a point near the anterior portion of the loop. The rest of the loop (Fig. 3, d to e) is very dull, the edges being much rounded, making it impossible to do any damage to the cartilaginous

lip of the tube, even though pressure should be made forward against it.

In using the instrument it is carried well up and back, between the lip of the tube and the posterior wall of the nasopharynx. Both fossæ may be curetted at one introduction of the instrument, as both sides are sharp. Before using this instrument it is, of course, necessary to remove the central mass of adenoids in the usual way, and my curette is applicable only in cases where Rosenmüller's fossa is involved by the growth or by adhesions.

My instrument differs essentially from other curettes in the following particulars: 1. The loop is not nearly so wide, thus allowing it to sweep through the fossa without encroaching on the posterior lip of the tube. 2. The angle which the curette makes with the shank is sufficiently large to enable the instrument to be put into Rosenmüller's fossa instead of cutting directly down on the orifice of the tube. 3. The part of the curette loop which passes adjacent to the posterior lip of the tube is very dull, making it impossible to cut the cartilage at this point, even though pressure should be made forward against it.

The advantages of a properly constructed instrument over the finger nail are as follows: 1. The instrument is without doubt more aseptic. 2. It is more efficient, especially if fibrous bands exist or the growth is hard from increase of connective tissue, as is sometimes the case in adults.

PROLAPSE OF MUCOUS COATS OF THE SIGMOID THROUGH A PERFORATION OF THE UTERUS.*

J. A. HARTMANN, M.D.
Coroner's Physician.
ST. LOUIS.

The following case is of interest, since the conditions were so rare as to be almost past belief. It is true that prolapse of some part of the bowel, through the uterus, is not uncommon, but in all of the cases reported the prolapse consisted of the entire coats of the bowel. In the case I am about to describe, most of the pathologic conditions were different. Indeed, I doubt if a similar condition has ever been seen. I have, after repeated attempts on the cadaver, been unable to produce it. In this instance, the mucous membrane had been stripped from its attachments to the muscular coat, and pulled through a small opening in the upper part of the rectum, just above Douglas' cul-de-sac, the mucous membrane being torn off about three inches above the anus, leaving the lower three inches of the rectum still lined by mucous membrane. The severed end of the mucous membrane presented at the vulva. A short history of the operation, for which I am indebted to the physician in attendance, will not be out of place.

Curettement.—The patient, suffering from incomplete abortion, was removed to the hospital, and placed under chloroform anesthesia. The gauze vaginal tampon, which was saturated with blood, was removed, and nothing was found in the vagina, nor protruding from the os, but clotted blood. The parts were made as aseptic as possible, a vaginal speculum inserted and the operation begun. Owing to the thickness of abdominal walls, it was impossible to estimate the size of the uterus. A uterine sound was not used to determine depth of cavity. The os was thoroughly dilated with a Goodell dilator. A small, dull, douche curette connecting with a glass irrigator, containing hot physiologic saline solution, was introduced into the uterus. The curette, not meeting any resistance, readily passed into what was thought to be an enlarged uterine cavity, and came in contact with a soft body, which felt as if it were the amniotic sac. The instrument was withdrawn, examined,

Fig. 1.—(A) Fundus of uterus showing tear; (B) tear in muscular coats of sigmoid, somewhat enlarged by subsequent manipulation; (C) bladder; (D) anterior wall of sigmoid and rectum opened.

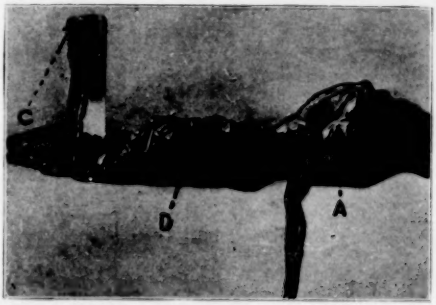

Fig. 2.—The absent bowel sections supplied from another subject showing (A) mucous coats of the sigmoid drawn through the uterine tear, (B) mucous coat separated and hanging from the sigmoid tear and (C) portion of bowel used in making the artificial anus which had been opened; also showing extent of retraction. (D) Inner surface of muscular coat.

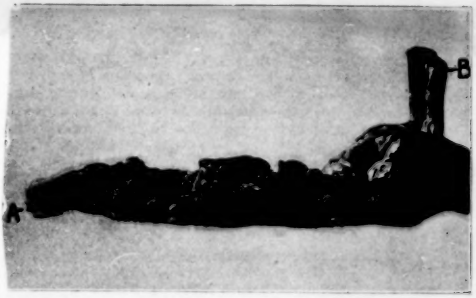

Fig. 3.—Another attempt to supply the missing parts and reproduce the condition with the muscular coats of sigmoid held apart; (A) junction and original end of mucous membrane, with the mucous membrane supplied from another cadaver; (B) intestinal mucous membrane protruding from vagina.

and the spoon found to contain only liquid blood. The curette was again introduced, and on encountering the same conditions, was removed. Now taking a pair of placental forceps, the phy-

* Specimen presented before the Alumni Association of Medical Department of Washington University, April 11, 1907.

sician decided to remove tissue for examination; he removed what was thought to be decidual tissue, but which proved later to be a piece of the serous and muscular coats of the bowel, about one and one-half inches in diameter. Not satisfied with what was removed, he caught hold of what was supposed to be the amniotic sac; this was pulled with some force, bringing a part out at the vulva, which resembled the gut of a chicken, but absolutely empty. Examining this carefully, it was discovered to be mucous membrane of the bowel; but the serous and muscular coats being wanting, it was impossible to distinguish what part of the bowel it was.

Knowing the serious consequence of the accident, he introduced a douche curette, through the perforation in the uterus, and allowed about one quart of hot physiologic saline solution to enter the abdominal cavity. The prolapsed part of the bowel was hastily wrapped in sterile gauze, the anesthetist gave just enough chloroform to keep the patient under, until the consent of the husband could be obtained for laparotomy. The surgeon arrived in about twenty minutes. Meanwhile the patient was prepared.

Laparotomy.—The surgeon, made a hurried examination and proceeded with the operation, after first ordering ether substituted for the chloroform. (About 15 grams of chloroform had been used.) A median incision was made, beginning just below the umbilicus, running downward five inches. The abdominal cavity was found to be filled with bloody fluid (blood mixed with the physiologic saline solution). The cavity was flushed with hot saline solution and it was then discovered that the entire sigmoid flexure of the colon was puckered up about the fundus of the uterus; this was pulled back, showing the perforation in the fundus and also that the mucous membrane of the sigmoid flexure was the part presenting at the vulva. An irregular opening of the outer coats in the upper part of the rectum, having the diameter of about one and one-half inches, had been made. The mucous membrane had been seized, stripped from the bowel, torn loose three inches above the anus, and pulled through the opening, through the perforation in the uterus, on out to the vulva, the walls of the uterus acting as the resisting force, in the stripping process.

The mucous membrane of the bowel, at its entrance into the uterus, was cut off and removed through the vaginal outlet. The upper severed end was sutured to the muscular and serous coats temporarily. The length of the mucous membrane which had been resected measured about eleven inches. The finger was next introduced into the perforation at the fundus, to explore the uterine cavity and remove what it contained; this was found to be a very small mass of decidual tissue, attached to the anterior wall, near the fundus, at the left cornu. Having satisfied himself that the uterine cavity was clean, the perforation at the fundus was seized and examined. The perforation was horseshoe shaped, about one and one-quarter inches in length, with the convexity forward. (Fig. 1, A); there was also a marked degeneration of the muscular to suture the peritoneal coat, before the deeper sutures could be placed, as they invariably tore through the tissue. The submucous and mucous coats of the bowel were found entirely stripped from about the middle of the sigmoid flexure, and were torn off about three inches above the anus. It was then coats about the site of the perforation, and it was necessary decided to make a temporary artificial anus, leaving enterostomy to be performed later, should the patient survive. The lower rectum was firmly ligatured, closing it off temporarily.

As the patient at this time was in a desperate condition, it was necessary to complete the operation as hurriedly as possible. The upper end of the mucous membrane of the bowel was found normally attached at about middle of sigmoid flexure, where it had been allowed to retract, but was easily recognized by the temporary suture which had been applied. The section of the rectum and sigmoid which had been denuded of its mucous coats, and of which only the muscular and serous coats remained, was not removed. Here and there, in the muscular and serous coats, were found small perforations, due to small particles having been pulled away with the mucous membrane. These were sutured. A small opening was made in the serous and muscular coats, just above where the upper end of the mucous coats were normally attached, the mucous membranes brought forward through this opening to the extent of about one inch; the serous membrane and mucous coats were firmly sutured together at this point. As the mesocolon became lax from the original traction, it was easy to bring this part of the bowel forward, to be used as a temporary artificial anus. This was done by suturing the peritoneal coat of the bowel to the parietal peritoneum of abdominal wall, the mucous membrane being sutured externally to the skin in the lower end of the laparotomy incision. The part of the bowel which had lost its mucous membrane was not removed. The abdominal cavity was again flushed with hot saline solution, allowing about one quart to be retained. The abdomen was closed without drainage and patient put to bed in the exaggerated Fowler position.

The patient had been under the anesthetic continuously from 4:30 to 7:30 p. m. She rallied fairly well, awoke, complaining of pain, and was given hypodermic of morphin, after which she passed the night quietly. She awoke again, at about 7:30 a. m., complaining of excruciating pain in abdomen, being perfectly conscious. Pulse was very rapid, and general appearance indicated fatal issue not far distant. She died at 5:00 p. m. About 7:00 p. m., the body was removed by an undertaker to his place of business, hastily embalmed with 5 per cent. formaldehyd solution, without inquiring whether death was regular or not.

Autopsy.—The coroner was notified the next morning of the circumstances by the physician in attendance. The autopsy was made about twenty-four hours after death, and happily, the conditions described above were not disarranged, even though the tissues were hardened by the embalming fluid. As the structure of most of the organs and viscera were altered by the embalming fluid, description would be of little value. Enough was shown as illustrated to give the essential features.

On removing the sutures in the abdomen, it was seen that the mucous membrane of the first part of the sigmoid flexure, the part that was to be used as temporary artificial anus, was still intact, but its serous and muscular covering had retracted to the extent of about eight inches, as shown in Figue 2, C. The sutures holding the outer tube to the abdominal wall had torn loose, accounting for the retraction. The mucous membrane of the artificial anus was now released by dividing the sutures.

The postmortem incision was horseshoe shaped, beginning at the outer third of Poupart's ligament to the ensiform cartilage, meeting a similar incision on the opposite side, thus forming a flap of the entire abdominal wall, which could be turned downward, giving perfect view of abdominal viscera, the perforation in the posterior part of the fundus of the uterus being readily seen, as was also the opening in the upper part of the rectum, (Fig. 1, B). The bladder contained about three ounces of amber-colored urine. The entire pelvic organs were removed intact. The uterus was found slightly enlarged; measured externally from the cervix to the fundus three and one-half inches. It was then opened by the usual anterior incision. The measurement of the uterine canal was found to be three inches. The condition of the tissue about the perforation, although hardened by the embalming fluid, was found to be extremely thin and friable, as compared with the rest of the uterine wall. Small remnants of the decidual tissue were found on the anterior wall, near the left cornu.

It was plainly evident that the uterus, at the time and preceding the operation, must have been exceedingly soft. By close examination of the situation of the tear in the fundus and the opening in the rectum, it seems a physical impossibility to have grasped the mucous membrane of the bowel at that point, unless there was a marked retroversion or possibly retroflexion, and even then, a straight instrument introduced would naturally tend to correct the displacement for the time being, by temporarily straightening the uterine canal.

I am indebted to Dr. Jules Baron, coroner, for kindly assisting in the preparation of this article.

1228 South Broadway.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE .... CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price.....Five dollars per annum in advance

[For other information see second page following reading matter.]

SATURDAY, OCTOBER 5, 1907.

EXPERIMENTAL ARTERIOSCLEROSIS FROM ADRENALIN.

In 1903 it was reported by Josué that rabbits which had received several injections of adrenalin developed, as a result, marked arteriosclerosis of the large vessels and aorta. This announcement was of great importance, both for the practicing physician and the experimental pathologist—to the former it suggested the possibility of harmful results from too extensive use of adrenalin therapeutically, and to the latter it furnished a means for experimentally producing a form of arteriosclerosis which might facilitate the study of the pathogenesis of this condition. Consequently, the subject was at once taken up on all sides, and a remarkably large number of papers discussing this effect of adrenalin has appeared in the last three years. The general conclusions of all these reports have been as follows: Josué's main contention has received complete confirmation, for it has been found that a considerable proportion of all rabbits receiving injections of adrenalin show degenerative changes in the aorta. It also seems to be generally agreed that the lesions occurring in the rabbit are somewhat different in their manner of formation and in their histologic structure from the typical lesions of arteriosclerosis as it occurs in man.

Concerning many other features, especially the way in which adrenalin causes the vascular lesions and the effects of iodid of potassium and other drugs on their production, there is much disagreement, and there seems to be absolutely no regular relation between the size and duration of the dosage and the extent and frequence of the lesions. This last fact is remarkable, for in experiments in which rabbits have received adrenalin in large doses and for long periods they may be found free from sclerosis, whereas other rabbits may show lesions after receiving but a single small dose. Another peculiar fact is that adrenalin does not produce arteriosclerosis in other animals to any such extent as it seems to in rabbits. These two peculiarities should certainly arouse suspicion as to the significance of the results obtained in experiments made on rabbits with adrenalin, and demand careful control experiments, especially as the rabbit is notoriously unreliable for work of this sort on account of its tendency to show chronic visceral lesions after any and all sorts of manipulations, and even after no manipulation whatever.

In this issue[1] we publish an article in which this feature is taken up. Struck by the irregularities and disagreements in the reports in the literature on experimental arteriosclerosis, and finding no regularity in the occurrence of arteriosclerosis in rabbits that they had injected with adrenalin in varying doses and for varying periods of time, Drs. Miles and Johnstone proceeded to examine normal rabbits to ascertain if such arterial lesions as they had found in their injected animals were really the result of adrenalin. The result was surprising—of 61 rabbits that had received adrenalin but 17, or 28 per cent., showed arteriosclerosis, whereas of 58 supposedly normal rabbits similar lesions were found in 20, or 34.5 per cent. Evidently in this set of experiments the arteriosclerosis observed in the rabbits injected with adrenalin was not the result of the action of the adrenalin, but was present in the animals before treatment.

Such a result naturally leads one to inquire whether or not the positive experiments reported in the literature have been adequately controlled, and a review of a large proportion of the published articles enables us to corroborate the statement of Dr. Miles, that this essential consideration has been remarkably neglected. It is apparent, therefore, that before we can put any proper valuation on the numerous reports on the subject of adrenalin arteriosclerosis there must first be other series of examinations of normal rabbits made by different observers, in order that we may know whether the results obtained by Dr. Miles are exceptional or not; for if arteriosclerosis is a common occurrence in normal rabbits, then the supposed positive results must be reconsidered with this point in mind.

THE NEWSPAPERS AS TOOLS OF THE "PATENT MEDICINE" MEN'S ASSOCIATION.

The Proprietary Association of America has a grievance against the American Medical Association because —among other things—the latter is responsible for the wide circulation in pamphlet form of "Samuel Hopkins Adams' "Great American Fraud" articles. When these were appearing in *Collier's Weekly* the "patent-medicine" men said that they would soon be forgotten and that the effects of the crusade against their wares would be temporary. But they were mistaken. The articles in the reprint form are having even greater effect than when they appeared in *Collier's Weekly*. These reprints are bought and circulated by physicians, preachers, lawyers, school teachers and others who want to see the public enlightened regarding this swindling business, and so the "patent medicine" men, through the press committee of their organization, are trying to besmirch the good name of the American Medical Association and to discredit physicians, and especially the members of the American Medical Association, in the public esteem.

1. Page 1173.

Having more or less control of the country newspapers, the nostrum defenders are supplying, without cost and with gentle suasion "boiler-plate" articles especially written to mislead the public. One of these contributions is entitled, "A Peculiar Alliance." By it we learn that the physicians of the country, through the American Medical Association, have formed an alliance with the Woman's Christian Temperance Union, and that the physicians are using the W. C. T. U. to "drag their chestnuts out of the fire." Certainly this is a terrible indictment, although we are not sure that the physicians would be willing to regret the alliance. Opportunity is taken in this article to repeat the exaggeration in regard to the number of physicians graduated each year who are incompetent, as well as the other argument that alcohol is the basis of most of the medicines used by physicians. Another "plate" article reproduces an editorial that recently appeared in a St. Louis drug journal—a journal that has contained many articles that the "patent-medicine" men were glad to reproduce and which were possibly written for the "patent-medicine" men's press committee. This article, entitled, "A Great Surgeon Barred From Membership in the American Medical Association," tells of a St. Louis surgeon—now dead—who, to save expulsion, withdrew from his county society "on account of some trivial infraction of this sacred 'code'." While the county society is alleged to have been the cause of the trouble, and while it is said to have happened twenty years ago, that terrible American Medical Association was the cause of it all. With this episode as a text, the Association is made out to be the most vicious of all vicious organizations. Here is the closing paragraph:

> "Let no man call this a false alarm. If there are those who are inclined to do so, let them read THE JOURNAL of the A. M. A. Let them scan the proceedings of the Association, held always behind closed doors, and carefully edited, as they are, before they are published in its official organ. If they will do this they will see that we are not trying to create a bugaboo to frighten their timid souls."

Another article that the newspapers are publishing at the instigation of the Proprietary Association of America is entitled, "Are Physicians Prescribing Nostrums?" This is a defense of a "patent medicine," and in it the public is informed that physicians' prescriptions are secret, that the physicians themselves do not know what they are prescribing, and that the only honest, true and non-secret remedy is the "patent medicine." This must be a fact, the public is told, because under the Food and Drugs Act every medicinal preparation entering into interstate commerce—and this applies to all "patent medicines"—is required to have the proportion of alcohol, opium, cocain, etc., printed on the label. This argument is put in a way to make the average reader think that because the amount of certain poisons must be put on the label the preparation must therefore be non-secret.

Still another, entitled "Some Disquieting Facts About Incompetent Doctors," is being circulated among the country newspapers. This choice piece of journalism appears under E. F. Kemp's name and is made up of disjointed quotations from all and various sources to prove that the really competent, decent and honest physician is, indeed, a *rara avis*. Kemp seems to be the active member of the Press Committee of the Proprietary Association of America. For some time he has been doing yeoman service in disseminating "tainted" news in the interest of the "patent-medicine" men, but until recently has not come out publicly as an employé of the promoters of the Great American Fraud. In the past he collected "data" of varying degrees of unreliability, from sources more or less apocryphal, in refutation of the deadliness of the "headache powder." This material that, according to *Collier's*, was printed in a pseudo-medical journal—the *Medical and Surgical Journal* of St. Louis, since defunct—appeared under the name of the editor and owner of the journal—Ohmann-Dumesnil.

The above articles have all appeared within the last few weeks, and we may expect others to follow. It behooves physicians to get in touch with their local papers and to enlighten their editors as to the origin of these articles, for in many instances they will not know. While we are tempted sometimes to berate the newspapers for their defense of the "patent medicine" business, the majority of editors are honest men and will make financial sacrifices rather than cooperate with fraud. Consequently, if physicians will seize every opportunity of enlightening these editors they will often be the means of winning them to the side of honesty and truth.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE ARMY.

In his annual report for 1907, published Sept. 26, 1907, Surgeon-General O'Reilly gives some interesting information in regard to the health and sanitary condition of the army at home and abroad. The admission and death rates are both lower than for many years past, the death rate being less than that for any similar period since the occupation of tropical countries in 1898. In the United States proper the death rate for disease, 2.84 per thousand of mean strength, is the lowest of which there is any record in the Surgeon-General's office.

Venereal diseases were again by far the most important factor affecting the efficiency of the army during the year. There were constantly on sick report for this class of diseases 739 men, equivalent to a loss to the whole army for the entire year of the services of about eleven full companies of infantry. Next after venereal diseases in order of admission were malarial fevers, the rates for which were materially increased compared with those for the previous year. As a cause of death tuberculosis was the most prominent factor, followed closely by typhoid fever. The admission rate for typhoid fever was slightly higher than for last year. This is attributed to the large camps of instruction which were held during

the summer. The men became infected by drinking impure water on their marches to the camps.

Twenty-two enlisted men were killed in action and seventy-eight wounded; all the casualties occurred in the Philippine Islands in encounters with Pulajanes or organized bands of outlaws. There were thirty-nine suicides during the year, thirty-seven of which occurred in the white troops.

An interesting comparison is made with the mortality and morbidity rates of the various foreign armies. The highest death rate was recorded in the British army, the American army was next and the Prussian army the lowest.

The figures for total loss, that is the combined rates for deaths and discharges for disability, form one of the most accurate bases of comparison. According to this standard, the American troops rank fourth, after those of Russia, Bavaria and Great Britain, but far ahead of all others. Another factor of importance in judging the relative healthfulness of different armies is the average duration of each case of sickness. From this standpoint the American army excelled all others except the Prussian, Bavarian and Dutch armies. The average duration of each case in the American army was about one-half that of the Russian army and a little more than one-half that of the British army. With regard to special diseases, the admission rates in the American army were better than in most other armies in the following instances: Pleurisy, pneumonia, scarlatina, sunstroke, erysipelas and epidemic cerebrospinal meningitis. They were much higher than in any other army in the following: Alcoholism, gonorrhea, influenza, mumps, syphilis (British army excepted).

There continues to be considerable difficulty in getting a sufficient number of physically qualified recruits. The principal causes of rejection in the order of their importance were defects of vision, 778; underweight, 601; defects of teeth, 470; venereal diseases, 463, and hernia, 261.

Two tables are given which show in an interesting way the influence of age and length of service on troops. The admission rate was highest for soldiers 19 years old and under and fell rapidly up to the age of 49, after which there was a slight rise; the discharge for disability and non-effective rates had the same characteristics; the death rate was lowest at the age of from 30 to 34 years, after which there was a considerable rise; the highest death rate in soldiers under 45 years of age occurred in those of 19 years and under. From the point of view of length of service all the rates were highest in the first year except the death rate, which was highest in the third year. The lowest discharge rate was recorded for soldiers in their third year of service, the lowest death rate in those in their fourth year, while the lowest non-effective rate was reported for soldiers who had ten years' service and over.

It is stated that the general sanitary conditions of posts are good. The adoption of an isolation pavilion separate from the main hospital marks a decided advance in hospital construction during the year. The pavilion provides accommodation for the separate isolation of several different sorts of contagious diseases at the same time, and is complete in itself except for cooking, which is done in the main hospital. Each pavilion is provided with a steam disinfecting plant and with diet kitchens and bathrooms. The provision in the last army appropriation bill for the establishment of steam laundries at posts was a great advance from a sanitary point of view over the old method of allowing the soldiers to have their laundry done wherever they wished. The new plan should be of decided assistance not only in preventing the introduction of contagious disease into the post but also in maintaining the personal cleanliness of the soldier. In the matter of field sanitation improvement was shown in the adoption of a portable steam fertilizer on wheels and also of an incinerator for the destruction of excreta without preliminary handling, also details that will prove of advantage.

ENZYMES AND THEIR COMMERCIAL EXPLOITATION.

There is mystery in the name of enzyme and magic in the nucleoproteins, and both are coined by the pharmaceutical "manufacturers" into yellow gold. Every new discovery in physiology or pathology offers possibilities for the introduction of a new therapeutic agent, which often appears on the market long before the physiologists or pathologists are themselves ready to interpret the significance of the discovery, much less to advise therapeutic measures based on it. This particular branch of commercial enterprise offers peculiar opportunities for preying on the public through the physician, for the latter is approached from a side that is of necessity weak and made to believe honestly that he is giving his patients the benefits of the most recent advances in medical science, whereas in reality he is acting as the unconscious agent of a thriving gold-brick industry.

It is no discredit to the practicing physician that he is not in a position always to see through the thick plating of pseudo-science with which the brick is covered, for in many instances even the specialist in physiology or pathology would need to investigate a little before condemning as absolutely worthless the products offered by these firms for supplanting lost functionating structures, and the practitioner can not possibly maintain the familiarity with the technicalities of the biologic sciences necessary to distinguish between the true and the false in this class of preparations. There is a very legitimate field for the therapeutic use of biologic products, and a hopeful future for its extension, and one of the most important functions of the Council on Pharmacy and Chemistry is that of furnishing the profession with an unprejudiced opinion on the preparations of this type, based on the investigations of men specially familiar with the sciences on which the use of such prep-

arations is founded. In another column[1] is given a summary of the results of such an investigation by the Council of a group of biologic products, put out by a firm whose name has been familiar to the profession for many years, and whose advertising matter is couched in such glittering pseudo-scientific language that only the well-posted specialist can be expected to detect how much is sham and how little is real. Perusal of this report will undoubtedly furnish to many a revelation of the way in which real scientific progress is used as a mask for the commercial ventures of men who palm off as wonderful new products substances which must be almost if not absolutely inactive, even if they are all that their proprietors claim for them, which last is extremely doubtful.

One of the most common schemes in the biologic products line is exemplified by the preparations investigated, namely, furnishing as pharmaceutical products, at great cost, substances which are present in ordinary or readily available foodstuffs in a condition undoubtedly much more readily utilized by the human economy than they can possibly be after undergoing the chemist's manipulations, and storage in some drug shop for an indefinite period. If the intracellular enzymes, or the nucleoproteins of the thyroid, thymus, parotid and pancreas possess such wonderful properties are as claimed for them by these manufacturers, can they be administered in any better way than as the fresh, uncooked glands themselves? Are they rendered more absorbable by being desiccated, extracted with ether, and kept for months mixed with milk sugar? Another good illustration of this form of commercial enterprise is furnished by the lecithin preparations, on which we have commented previously. If lecithin possesses all the virtues attributed to it by those who write and pay for advertisements, then why give expensive and altogether artificial preparations of lecithin, when the yolk of an egg contains more lecithin than the prescribed dose of some of these preparations? Surely the egg lecithin, or the lecithin so abundant in calve's brain and liver, is in a form more natural to the alimentary tract than any commercial preparation, and undoubtedly is as readily utilized.

As a matter of fact, all that we are now learning concerning the processes by which food-stuffs are prepared for utilization in the animal economy, keeps adding to the evidence that before absorption takes place the foodstuffs are broken down into relatively simple constituents so that they lose their specific individuality completely, apparently with the object of permitting the body to build up its constituents according to its own plan of chemical structure. Thus proteins appear to be broken down completely into their component amino acids before being absorbed, and lose all their protein characteristics; and if such a reduction to the elementary substances did not occur, how would it be possible for a baby nourished exclusively on the vegetable proteins of certain artificial foods to build up the very different human proteins of its growing organs. So, too, the complex polysaccharid molecules of the different forms of starches are reduced to simple monosaccharids before being ready for absorption and conversion into animal glycogen. In the face of this, is it reasonable to claim that specific secretory granules of the pig's kidney, supposing that such purely hypothetical granules do exist, can be absorbed unaltered from the intestine, enter the cells of the human kidney, and there functionate? And even if this were so, who can be induced to believe that any pharmaceutical chemist is able to isolate these granules unaltered and put them on the market? Finally, if all the claims for "Nephritin" were true, in what better form could these granules be given than as the fresh pig kidneys themselves?

To come down to the real truth of the matter these "new" preparations for which so much is claimed by their promoters represent nothing newer than the old "organotherapy" principle of Brown-Séquard, which was many years ago worked over and given its proper valuation. Indeed, the manipulated storeroom products of the manufacturers undoubtedly possess much less of any possible value than the fresh extracts used by Brown-Séquard himself.

1. Pharmacology Department, page 1198 this issue.

BOOMING THE BORAX BUSINESS.

The methods which are used to secure the adhesion of physicians to a failing cause are well illustrated by the work which is now being undertaken by a writer who sometimes signs his name H. H. Langdon and sometimes H. L. Harris. This man, as is well known, writes much and often for newspapers and for such medical journals as will publish his matter, for the purpose of combating the theories that preservatives are harmful substances. The patent object of his enthusiasm is the promotion of the sale of borax to be used in foods. He is connected with the Pacific Coast Borax Company and, in the company's interest, has been sending a letter and question blank to various physicians throughout the country.

The question blank is headed by a quotation from a bulletin issued by the Department of Agriculture regarding the action of salt on meat. This, removed from its context, gives the reader the impression that salt is distinctly harmful as a preservative. Below this is a series of six questions, the first four of which ask for an opinion regarding the edibility and nutritive value of foodstuffs preserved by salt, saltpetre, etc. The fifth question reads as follows: "Do you believe if the above mentioned articles (salt-cured fish, ham, dried beef, etc.) were mildly cured with 1 per cent. or less of borax, or 0.5 per cent. or less of boric acid, and 75 per cent. less salt, so that it would not be necessary to parboil or soak them, that they would be more healthful, more nutritious and more easily digested?" The sixth and last

question asks: "Have you ever read an AUTHENTIC account, or do you know from personal experience, of any person ever having been injured by partaking of foods preserved with borax or boric acid?"

The explanatory letter states that the company "is desirous of obtaining the opinion of the best medical authority in the United States in reference to boron compounds when used in quantities necessary to preserve food." For the benefit of those physicians who have no firm opinion of their own on the subject the letter goes on to enumerate several well-known men in Europe and in this country who, it is claimed, are "unanimous in stating that boron compounds are innocuous when used as food preservatives." We doubt very much whether the reputable physicians mentioned care to be presented to the profession in this light. Eminent physicians of Europe and the United States are represented by him as favoring his theories, but Liebreich's advocacy of boron does not seem to be shared by his professional brethren in Germany. As is well known, the German Imperial Board of Health has pronounced borax extremely injurious. Now comes a commission of the physicians of Berlin who have just published a condemnation of borax in foods in the following language: "The Prussian Scientific Deputation on Medical Conditions, in a written opinion, on request of the president of the Berlin police service, has decided against the use of boron preparations for the preservation of foods, because these substances, even when taken in small quantities, are injurious to the human organism. Further, the public is deceived by the addition of these preservatives in regard to the quality of the debased foods, since decayed and wholly inedible meat products take on a fresh appearance as a result of the addition of these substances so that they resemble the unspoiled articles. The Scientific Deputation has, moreover, rejected the contrary conclusions received from Herr Geheimrat Prof. Dr. Liebreich relating to the harmlessness of boron preparations for the human organism as being unjustified."

Allowing that the question is still unsettled, this method of securing the endorsement of physicians for a process of food preservation which is regarded by many physiologists and hygienists as injurious should not bear much fruit. It is to be hoped that physicians will be on their guard against inadvertently lending the use of their names to such a bare-faced attempt to find a market for a chemical product in foods.

THE STUDY OF TROPICAL DISEASES.

Through the report of the Surgeon-General of the Army, referred to editorially elsewhere, we learn that the Army Board for the Study of Tropical Diseases has been actively at work during the year. The first original discovery made by the board was that of a new blood parasite, which was designated *Filaria philippinensis*. This new filaria, while so far as known not pathogenic, is of interest as being of common occurrence among natives of the Philippine Islands. Its presence in the mosquito, *Culex fatigans*, as well as its life history in that insect, has been demonstrated. The board has also investigated the prevalence of *Entamœba coli* among healthy American soldiers and has found it among a very large percentage, and demonstrated its continued presence in the intestine for long periods without producing symptoms. The board concludes that *Entamœba dysenteriæ* may be readily distinguished morphologically from *Entamœba coli* and is uniformly pathogenic. After an exhaustive study of dengue the board was unable to find any organism in the blood of infected persons, but has been able to reproduce the disease in susceptible individuals by intravenous inoculation of filtered and unfiltered blood from dengue patients. It has been able to prove the transmission of the disease by a mosquito, *Culex fatigans*, and concludes that the disease is not contagious. Yaws has been found rather prevalent among the natives in certain districts, and the *Treponema pertenue* was found in abundance in the lesions; the disease was also reproduced in monkeys inoculated with material from the lesions of yaws in the human subject.

BERIBERI IN THE UNITED STATES.

There is probably little danger of the extensive spread in most portions of our country of any introduced tropical disease. Yellow fever, perhaps, might be considered an exception, but we know better how to protect ourselves from that than was formerly the case, and the late experience in New Orleans shows that even if introduced it can be controlled by an efficient health administration. The habits of our people, as a rule, are not such as to favor the virulent spread of such disorders as plague, leprosy, etc., though constant vigilance against their invasion is certainly advisable. Where large numbers of orientals congregate, however, there is a possibility that they may bring unwelcome diseases which may get out of hand in such communities if overlooked or neglected. Thus, it is not entirely satisfactory to hear of an outbreak of beriberi among Japanese laborers in Nebraska, and if this disease is mosquito-born, as some recent investigations would seem to indicate, there is no certainty that it will confine itself to those who bring it. It might prove an altogether more unmanageable affair than the plague in San Francisco, which is now troubling our sanitary authorities, though the outbreak is not to be considered a national danger. We do not want beriberi in this country, even if it is confined to Japanese.

ALCOHOLIC INSANITY IN FRANCE.

From official figures[1] compiled under the direction of the French ministry of the interior, of the total number of insane in the French asylums and the proportion due to alcoholism, it appears that out of a total of 71,551 inmates the insanity of 9,932 was credited to alcoholic excesses, a percentage of 13.88; 7,062 were males, 2,870 females. In 3,008 alcohol was said to be the sole cause;

1. Semaine Méd., July 10, 1907.

in 3,285 there was also a complication of mental weakness or degeneracy or alcoholic heredity, and in 3,639 alcoholism combined with other causes. It was sought also to ascertain the form of alcoholic excess, with the following result: 1,537 individuals were absinthe habitués; 2,631 were brandy drinkers; 664 were cider or beer drinkers; 1,755 used wine, and in 3,345 the insanity was credited to the use of various alcoholic drugs (*"aperitifs"*) or liquors. These figures, while carefully compiled, are, after all, incomplete, as the *Semaine Médicale* says, since they take no account of the cases of insanity due to ancestral alcoholic excesses, but not presenting characteristic signs of this etiology.

Medical News

CALIFORNIA.

Anti-Rat Crusade.—At a meeting of the State Board of Health September 19, a notice to the public was drafted calling attention to the important part played by rats in the dissemination of certain infectious diseases, and urging all citizens to aid in their extermination.

Personal.—Dr. James T. Watkins, formerly health officer of San Francisco, has been appointed city physician.——The annual meeting of the King's Daughters' Home, Oakland, was held September 13. Drs. Alexander S. Kelly and John R. Fearn were elected members of the advisory board and Dr. Kelly was elected physician.——Dr. Chester W. Bryant, Redding, was thrown from his buggy in the mountains, forty-five miles from his home, September 16, and suffered a fracture of the leg.——Dr. William K. Sanborn, Oakland, has been appointed a member of the board of health to succeed Dr. Thomas A. Williams, resigned, and Dr. Edward R. Sill has been elected president of the board.——Dr. Thomas A. Williams, Oakland, has started for Europe.——Dr. Herbert Gunn has been appointed health officer of San Francisco, vice Dr. James E. Watkins, resigned.

CONNECTICUT.

Personal.—Dr. Frederick B. Downs, Bridgeport, medical examiner, is reported to be dangerously ill with heart disease. ——Dr. and Mrs. Levi Jewett, Cobalt, celebrated their golden wedding anniversary September 10.

Typhoid Fever.—Twenty-four cases of typhoid fever are reported from South Manchester.——Terryville reports 7 cases of typhoid fever.——Health Officer Black of New London, states that 15 cases of typhoid fever have been reported to him.

Library Presented to Society.—In a letter addressed to the Hartford Medical Society, Mrs. Helen L. Shepherd, widow of the late Dr. George R. Shepherd, Hartford, who died last spring, expressed her intention of presenting the entire library of her late husband to the society. The gift was accepted and will be placed in the library of the organization in Hunt Memorial Building.

GEORGIA.

Personal.—Dr. James B. Morgan, Augusta, is under treatment at St. Joseph's Infirmary, Atlanta.——Dr. Charles R. Andrews, Atlanta, is reported to be seriously ill with typhoid fever.——Dr. J. Peebles Proctor has been elected surgeon of the University Cadets, Athens, vice Dr. Samuel C. Benedict, resigned.

Anti-Narcotic Law.—The attorney general in an unofficial communication made in reply to letters from hundreds of physicians and pharmacists throughout the state believes that the efficacy of the Whitley-Hardman anti-narcotic law depends almost entirely on the integrity of the physicians in the state and that it is hardly more nor less than an appeal to the heart and conscience of the medical profession. After a careful reading of the law he does not see that there is any inhibition on the part of the physician in good faith furnishing even to the habitual user of narcotic drugs such substances as are necessary, in his opinion, for treatment.

ILLINOIS.

Smallpox.—Three cases of smallpox of mild type have appeared in Rockford.——The first case of smallpox since July 21 in Chicago occurred September 20, the patient coming from Montana and never having been vaccinated.

Physician Exonerated.—At the coroner's inquest on Charles Swicks, city marshal of Rose Hill, who was shot and killed by Dr. John W. Hutton, September 18, the physician was exonerated, the case being declared one of justifiable homicide.

Personal.—Dr. William F. Matson and family, Monticello, will sail for Europe October 10.——Dr. Harry B. Earl, resident physician at the Maplewood Sanitarium, Jacksonville, has received an appointment on the staff of the Iowa State Hospital for the Insane, Cherokee.——Dr. John Randolph Webster, Monmouth, who has been seriously ill in Chicago, has returned home convalescent.

Chicago.

Personal.—Dr. Howard T. Ricketts has returned after a summer spent in investigating the tick fever problem in Montana. ——Dr. Arthur Snydacker sailed for Europe, September 19. ——Dr. W. S. Layman has returned to Chicago after three years at Kamerun, West Africa.

Medical Golf Association.—At the annual meeting, September 22, of the Chicago Physicians and Surgeons Golf Association, founded six years ago by the late Dr. Fernand Henrotin, Dr. Thomas J. Watkins was elected president, Dr. George W. Webster secretary, and Drs. John Ridlon, Wm. Allen Pusey and Frank W. Lynch, executive committee.

Communicable Diseases.—During the week ended September 28, 87 cases of diphtheria, 52 of scarlet fever, 48 of tuberculosis, 33 of measles and 24 of typhoid were reported to the department of health. This is an increase of 2 cases of diphtheria, 18 of measles, and 4 of tuberculosis, and a decrease of 25 cases of scarlet fever, 6 of typhoid fever, and 9 of whooping cough, as compared with the previous week.

Deaths of the Week.—During the week ended September 28, 549 deaths were reported, 69 fewer than for the previous week, and 11 more than for the corresponding week of last year, the respective annual death rates being 13.58, 15.29 and 13.60 per 1,000. Chief among the death causes were acute intestinal diseases, 108; consumption, 70; violence (including suicide), 45; pneumonia, 41; nephritis, 39, and heart diseases, 32. Diphtheria and typhoid fever each caused 9 deaths during the week, scarlet fever 8, and measles and whooping cough, each 1 death.

INDIANA.

Medical School Opened.—The Indiana University College of Medicine opened for its second session September 11, with addresses by Dr. Allison Maxwell, dean; Dr. John F. Barnhill, secretary; Dr. James H. Ford, professor of surgery, and Dr. Burton B. Myers, head of the department of anatomy. Among the additions to the faculty are Dr. H. G. Parker, Boston, assistant professor of ophthalmology, and Dr. H. E. Woodbury of the Harvard Medical School, who has been appointed professor of obstetrics.

August Illness and Death.—The *Bulletin* of the State Board of Health shows a decided increase in the prevalence of typhoid fever, which is given first in the order of prevalence, followed by diarrheal disease as second and rheumatism as third. The deaths from typhoid fever numbered 131, as compared with 93 deaths for the corresponding month of 1906. The deaths from diphtheria in August numbered 17, and for August, 1906, 11, an increase of more than 50 per cent. At Fair Oaks diphtheria was discovered among a religious community which does not tolerate physicians or drugs, and this has caused the health officer trouble in protecting the community. The total number of deaths for the month numbered 3,390, equivalent to an death rate of 14.8 per 1,000 of population. Tuberculosis caused 377 deaths, cancer 147, and violence 186.

IOWA.

Medical College Opens.—At the opening of the annual session of the Sioux City College of Medicine, September 14, the opening address was made by Dr. Edwin D. Frear, Sloan, secretary of the board.

Conference of Health Officers.—A conference of health officers and mayors with the State Board of Health will be held in Des Moines, November 12 and 13, in conjunction with the meeting of the State Health Officers' Association.

Physicians Indicted for Fee Bill.—The grand jury of Bremer County, on September 13, returned indictments against 14 physicians, members of the county medical society, on the ground that the adoption of a new and increased fee bill by the society violated the state anti-trust law.

Personal.—Dr. E. T. Kegel and family, Wolcott, arrived from Europe, September 17.——Dr. Edwin E. Hobby, Iowa City, while hunting near Greeley, Colo., was lost in the moun-

tains for two days and three nights.——Dr. W. S. Sharpe has been appointed superintendent of the Knoxville Hospital for Inebriates.——Dr. Hiram L. Getz, city physician of Marshalltown, is reported to have attempted suicide, September 20, at West Liberty, while temporarily deranged.

KENTUCKY.

Damages for Husband's Death.—In the Montgomery Circuit Court Mrs. Blanche Brashear was given a verdict of $10,000 against the Chesapeake and Ohio Railroad for the killing of her husband, Dr. James Brashear, in June, 1906.

Personal.—Dr. Albert Dieg has resigned as assistant health officer of Louisville and has been succeeded by Dr. James W. Guest, formerly city physician for the East End.——Dr. Harris Kelly, Louisville, formerly coroner of Jefferson County, has returned after eight weeks in the east.——Dr. Richard L. Threlkeld, Louisville, was struck by a street car September 11, breaking his left arm and his patella.——Dr. William H. Baldwin, Cairo, was severely injured by a kick from his horse September 12.——Dr. John D. Long, Louisville, a colored practitioner, is reported to be critically ill in Denver.——Dr. William Bailey, Louisville, celebrated his forty-eighth wedding anniversary September 7.——Dr. Theodore D. Fleck, Louisville, is reported to be seriously ill.——Dr. Joseph W. Irwin, Louisville, returned from Europe, September 26.

LOUISIANA.

Personal.—Dr. Oliver L. Pothier, in charge of the pathologic department of the Charity Hospital, New Orleans, is reported to have resigned.——Dr. Abraham L. Metz, chemist for the State Board of Health, has resigned and Dr. Hamilton P. Jones has been elected his successor.

Health Crusade.—The officers of the State Board of Health are planning a health crusade to be carried on over the state this fall. An itinerary is being arranged for the president, Dr. Clifford H. Irion and special medical inspector, Dr. Frederic J. Mayer, who will deliver illustrated lectures on the preventable diseases, in many towns, especially those at which state and county fairs are to be held, and to which large crowds will be attracted.

MARYLAND.

Baltimore.

Typhoid Fever.—During the week ended September 27, there were reported to the health department 97 cases of typhoid fever with 12 deaths.

Medical Inspection of School Children.—The health department announces that the medical inspection of school children, under the supervision of the department, will begin October 1.

Johns Hopkins Needs New Buildings.—President Remsen of Johns Hopkins University urges the immediate need of increased accommodation for the work in pathology in the medical school. From the beginning, this department has occupied a building owned by the hospital which has become inadequate in size and equipment.

Personal.—Dr. James Bosley was reappointed health commissioner for a third term September 25.——Frederick C. Blank, Ph.D., of Johns Hopkins, has been appointed research assistant to Professor Volin of Harvard Medical School, and will have charge of special research work in biologic chemistry now being conducted in the Harvard medical laboratory.——Dr. E. F. Malone sailed for Bremen September 25.

MASSACHUSETTS.

Hospital Started.—The first movement toward the erection of a hospital in Hyde Park was made recently when an association known as the Public Hospital of Hyde Park was formed with the following physicians as trustees: Drs. Henry R. Hitchcock, Alvin D. Holmes and Clarence E. Bryant.

Personal.—Drs. William H. Prescott, Boston, and Timothy J. Foley, Worcester, have been appointed for five and three years respectively, members of the board of trustees of the Foxboro State Hospital for Dipsomaniacs and Inebriates.——Dr. Vivian Daniel, Watertown, is recovering from an attack of appendicitis.——Dr. Henry B. Dunham, Rutland, has been appointed superintendent of the State Tuberculosis Sanatorium, Glen Gardner, N. J.

MICHIGAN.

Personal.—Dr. Frank A. Millard, Detroit, has returned from Europe.——Dr. F. J. W. McGuire, Detroit, who has been seriously ill for several weeks on account of an accident to his eye, has recovered, and resumed his practice.

Typhoid Fever and Smallpox.—Renewed efforts are being made by the State Board of Health to awaken the public to the necessity of guarding against typhoid fever. In a circular notice the secretary says that in many places in the state the disease has not been absent for years. He urges the health officers everywhere to pay particular attention to the sanitary conditions and to clean up places where germs of the disease are likely to be discovered.——Typhoid fever is said to be the only disease which menaces the city of Grand Rapids.——In Stronach township, Manistee County, five persons, all in one family, are ill with typhoid.——On September 12, in Detroit, there were in the Marine Hospital 7 cases of typhoid, in the Harper Hospital 6 cases, and in the Red Cross Hospital 1 case of typhoid fever, none of which had been reported to the Board of Health.——Four cases of smallpox in advanced stage were discovered in Saginaw September 13.

MISSOURI.

College Opens.—At the opening of the Ensworth-Central Medical College, St. Joseph, September 16, there were 120 students enrolled.

Tuberculosis Campaign.—The executive committee of the Missouri Association for the Control and Prevention of Tuberculosis has issued a statement of the plans and purposes of the association, together with an appeal to the public for financial support, prepared by the president, Dr. George Homan. On account of the menace of tuberculosis to every household the association solicits aid in order to make thoroughly effective its work aimed at the overthrow and destruction of this pandemic disease. Public opinion is being awakened to a sense of responsibility for the presence and prevalence of tuberculosis, and associations are being generally formed all over the country to combat the spread and eradicate the sources of the disease. This work is already bearing fruit in the lessened death list and decreased rate of illness from the disease, due to the better understanding of the simple principles necessary to be observed. The chief factors of success are clean air in full supply at all times; good food and plenty of it; wholesome surroundings, together with a disinfection, or rendering harmless of sputum of the affected individual. The means by which this knowledge is being brought before the public are public lectures, addresses, demonstrations and exhibitions; the public press with its wide influence as an educator; the free distribution of leaflets, circulars, etc., setting out in plain terms what tuberculosis is and how it can be both prevented and cured; sanatoria, dispensaries, etc., where afflicted persons may be taught how to get well, keep well, and avoid giving the disease to others; the instruction of school children as to how this form of danger may be avoided and the cautioning and teaching of physicians, nurses and others having influence within the household as to the prevention of these risks. The plans of the association contemplate the formation of local organizations in every county throughout the state and, through these organizations, the instruction of the people by all available means. It is estimated that $10,000 can be spent wisely in this propaganda during this year and next, and an earnest appeal is made for funds for this purpose. Life membership may be secured by the payment of $100, but contributions of any amount will be welcome and may be paid to the secretary or treasurer of the association, 625 Locust St., St. Louis.

NEW JERSEY.

Avoid Newspaper Mention.—The physicians of Trenton have united to request the newspapers to refrain from mentioning their names in connection with cases which they may be treating.

Typhoid Fever.—About a dozen cases of typhoid fever are reported in Millville and the citizens have been advised to boil their drinking water.——Several cases of typhoid fever are reported in Lambertville.

Bacteriologic Examinations.—During August 689 specimens were examined at the State Board of Health Laboratory, 283 of which were for typhoid fever, 232 for tuberculosis, 142 for diphtheria, and 19 for malaria.

Personal.—Dr. Sarah M. Edwards, Newark, who was taken ill with typhoid fever at Colorado Springs, is reported to be improving.——Dr. William F. Dodd, Montclair, sailed for Cesarea, Asia Minor, September 7, to resume work as resident physician of the missionary hospital which was established in that place in 1900.——Dr. Henry W. Weeks, superintendent of the New Jersey State Village for Epileptics, Skillman, who left for Europe July 25, sailed for home September 25.——Dr. Levi W. Case, Montclair, was thrown from his automobile September 20, and severely bruised.

Vital Statistics.—During the month ended August 15, 3,232 deaths were reported to the Bureau of Vital Statistics. Of

these 1,066 were of infants under 1 year of age; 1,377 of children under 5 years of age, and 686 of persons aged 60 or over. There were 689 deaths from infantile diarrhea, 28 from scarlet fever, 41 from diphtheria, and 38 from cerebrospinal meningitis. These figures are in excess of those noted for the preceding months. Among the chief causes of death were diseases of the nervous system, 372; tuberculosis, 309; diseases of the circulatory system, 254; diseases of the digestive system, 223; typhoid fever, 181, and cancer 130.

Typhoid Situation at the State Hospital.—Henry Mitchell, secretary of the State Hospital for the Insane, Trenton, gives the following recapitulation of the epidemic of typhoid fever which recently prevailed in that institution:

1. Typhoid fever was brought to the State Hospital, Trenton, by an inmate who was admitted Feb. 16, 1907, the diagnosis being made April 8. This patient was located in the west wing.
2. The roommate of the first patient contracted the disease, and also numerous other inmates in the same wing.
3. These persons were not isolated during their convalescence, and new cases continued to appear in the west wing and the disease was undoubtedly spread from patient to patient.
4. The disease did not attack the inmates located in the Annex because they were not brought into contact with infected persons.
5. The disease finally subsided when all susceptible persons who were exposed to the infection had suffered an attack.

NEW YORK.

Medical College Opens.—The Medical Department of the University of Buffalo opened for its annual session September 23. In the absence of the dean, the principal address was delivered by Dr. Allen A. Jones.

Sanitary Officers to Meet.—The annual convention of Sanitary Officers of the State of New York will be held in Buffalo October 16 to 18. The opening addresses will be made by Dr. Ernest Wende, health commissioner of Buffalo, Dr. Eugene H. Porter, state health commissioner, and Governor Hughes.

Personal.—Dr. Thomas A. Ryan, Albany, returned from Europe, September 19.——Dr. Stephen Smith has given 1,300 volumes, and more are to be added from time to time, to the College of Medicine, Syracuse University. The library now has more than 6,000 volumes and over 50 current periodicals are taken.

Communicable Diseases.—On account of an outbreak of smallpox one mile south of Ithaca, the house affected and the nine persons in the house, have been quarantined by the health officer, Dr. Walter H. Lockerby, who has also ordered the Kent District schoolhouse closed.——A large number of cases of typhoid fever are reported from Plattsburg. A recent analysis made at Plattsburg Barracks indicates impurity in the supply of drinking water.

New York City.

Anesthetists Meet.—The fall meeting of the Long Island Society of Anesthetists was held at the Jewish Hospital, Brooklyn, October 2, at which papers were read on mixed narcosis; on the details of the administration of ether, and on the anesthetic practice at the Jewish Hospital.

Personal.—Dr. Albert W. Ferris has been appointed president of the State Commission in Lunacy.—Dr. C. A. Burke sailed for Europe, September 21, and Dr. Homer Gibney, September 26.——Dr. and Mrs. John G. Curtis and Dr. and Mrs. Frank T. Hopkins returned from Europe, September 26.

Eligible List.—The Municipal Civil Service Commission announces an eligible list for medical positions as police surgeon, coroner's physician, medical officer of the fire department and general medical superintendent in the hospital service. The list contains 112 names, 44 of which are of Brooklyn and Long Island physicians.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 21, 345 cases of tuberculosis, with 143 deaths; 212 cases of diphtheria, with 25 deaths; 114 cases of measles, with 5 deaths; 108 cases of scarlet fever, with 9 deaths; 181 cases of typhoid fever, with 27 deaths; 18 cases of whooping cough, with 4 deaths; and 13 cases of varicella, a total of 1,014 cases and 224 deaths.

Mary Putnam Jacobi Fellowship.—The committee on the Mary Putnam Jacobi fellowship announces that $8,000 of the $25,000 required has already been raised. The fund is expected to provide an income of $1,000, whereby efficient aid may be rendered to postgraduate women students in medicine. The Women's Medical Association of New York City invites the hearty and generous cooperation of all who desire to further the higher medical education of women in medicine. The treasurer of the Association is Dr. Eleanor Tomes, 136 East Thirtieth Street.

NORTH CAROLINA.

Personal.—Dr. Henry T. Bahnson, Winston-Salem, has returned after six months' absence in Europe.—Dr. Hillary M. Wilder, Charlotte, has gone to Europe.——Mr. E. N. Melver, Jonesboro, has been appointed assistant demonstrator of clinical pathology in the North Carolina Medical Department, Raleigh.——Dr. Charles L. Minor and family, Asheville, have returned after a summer spent in the Muskoka Lake region. Dr. W. C. Perry, Wakefield, was seriously injured by the overturning of his buggy recently.——Dr. George W. Pressly, Charlotte, has been elected surgeon in chief and chief of staff of St. Peter's Hospital.——Dr. William S. Taylor, Mt. Airy, sustained severe injuries while crossing the tracks of the Southern Railway, recently, but is expected to recover.

OHIO.

Typhoid Fever.—During the first 11 days of the month 39 cases of typhoid fever were reported in Cleveland, as compared with 86 cases during the entire month of September, 1906.

Personal.—Dr. John D. Dunham and family, Columbus, sailed for Europe September 17.——Dr. and Mrs. J. Leonard Mounts, Morrow, returned from a trip to the Pacific coast, September 3.——Dr. James Fraunfelter, Canton, is taking a trip to the Pacific coast.

PENNSYLVANIA.

Typhoid Fever in Spring City.—It was reported September 22, that typhoid fever was epidemic in Spring City. More than 40 cases have recently been recorded in the local board of health and the Spring City Hospital is full of typhoid patients. The spread of the disease is generally attributed to the drinking water which is supplied by the Schuylkill, and which is unfiltered.

Contract Doctors Dropped from Society.—It is reported that the Montgomery County Society has dropped from its rolls the following men, who are alleged to have been serving sick members of fraternal and beneficial organizations under contract: Drs. James J. Kane, Norristown; Florence Donnelly, West Conshohocken; Wm. H. Hall, and John Stemple, Conshohocken. It is stated that a number of other physicians resigned from beneficial organizations in order to retain their standing in the medical society.

State Society Meeting.—The annual meeting of the Medical Society of the State of Pennsylvania, held in Reading September 23 to 26, was one of the most notable in its long era of usefulness. The scientific material presented was extremely valuable and the interest taken to improve the material welfare of the physicians of the state was the highest on record. A report was submitted to the Committee on Public Policy and Legislation at the meeting September 25 relative to the single board of medical examiners. Its aim is to make all persons who desire to adopt the healing art as a profession come up to a certain standard, and if they pass the examination they are not to be known as homeopaths, allopaths, etc., but simply as doctors. A resolution was adopted ordering a report submitted to the county societies for deliberation and that the delegates report at the next annual convention. At the meeting of the House of Delegates on the same day, a resolution was adopted authorizing the introduction of a bill at the next meeting of the legislature making physicians' bills open accounts and collectable after six years. Drastic action directed against so-called lodge doctors was the most important feature of the day's session. A motion was introduced at the meeting by Dr. John B. Carrell, of Hatboro, that: "On and after Jan. 1, 1908, any physician engaged in lodge or contract practice shall not be retained in or become a member of a county medical society of the state." This motion was carried, but at a meeting of the general body later, the measure was considered too sweeping and was referred to a committee for consideration, and action to be taken at the next meeting in 1908. The place of meeting in 1908 will be Cambridge Springs. The membership is now 4,934. This is the second largest membership of any state in the union, being surpassed only by New York. During the past year there was a net gain of 337 members, as against 226 for 1906, and 360 for 1905. Two new societies were formed during the year, making a total of 63 subsidiary societies. The Philadelphia and Allegheny County societies showed the largest gains in membership, the former gaining 32 and the latter, 35. The following officers were elected: President, Dr. William L. Estes, South Bethlehem; Vice-Presidents, Drs. Samuel G. Statler, Alum Bank; Daniel Longaker, Reading; Theodore Diller, Pittsburg; Daniel J. Langton, Shenandoah; Secretary, Dr. Cyrus Lee Stevens, Athens; Assistant Secretary, Dr. Theodore B. Appel, Lancaster; Treasurer, Dr. George W. Wagoner, Johnstown. A report of the meeting in detail will appear later.

Philadelphia.

Medical Colleges Open.—The annual opening of the Medico-Chirurgical College was held in the college building September 24. The address was delivered by Dr. Ernest Laplace on "The Experimental Method in Medicine."——The annual opening exercises of the University of Pennsylvania were held in the University September 27.——The annual opening exercises of Jefferson Medical College were held September 24. The annual address was delivered by Dr. W. Joseph Hearn, professor of clinical surgery, who spoke on "The Duties and Responsibilities of the Medical Profession."

Personal.—Dr. Francis P. Horan, ex-resident physician in St. Joseph's Hospital, sailed for Europe September 26.——Dr. George L. Streeter, associate professor in neurology of the University of Pennsylvania, will fill the chair of anatomy at the University of Michigan, Ann Arbor.——Dr. Thomas J. Morton has been elected coroner's physician, vice Dr. William S. Wadsworth, who will be retained as a special physician in the coroner's office.——The positions made vacant by the resignation of Drs. Herman B. Allyn and Henry W. Stelwagon in the Woman's Medical College will be filled by Dr. Benjamin F. Stahl as clinical professor of medicine, and Dr. Milton B. Hartzell as clinical professor of dermatology.

VERMONT.

Hospital Notes.—Two mild cases of scarlet fever have appeared among attendants at the State Hospital for the Insane, Waterbury.——The trustees of the John S. Holden Memorial Hospital, Hardwick, have arranged to operate the hospital. A house on Hill street has been leased and a matron secured.

Society Meetings.—At the sixth annual meeting of the Washington County Medical Society, held in Montpelier, September 10, Dr. Alanson C. Bailey, Randolph, was elected president; Dr. Michael F. McGuire, Montpelier, vice-president; Dr. Orlando G. Stickney, Barre, secretary; Dr. Edwin A. Colton, Montpelier, treasurer, and Dr. Clarence H. Burrn, Montpelier; Eugene A. Stanley, Waterbury, and Elliot B. Watson, Williamstown, censors.——The semi-annual meeting of the Franklin County Medical Society was held at St. Albans, September 25. It was voted that an invitation be extended to the physicians of Grand Isle County to join in the organization of a medical society for the two counties.——At the annual meeting of the Rutland County Medical Society, held at Lake Bomoseen, the following officers were elected: President, Dr. Alheni H. Bellerose, Rutland; vice-president, Dr. James W. Estabrook, Brandon; secretary, Dr. Clarence F. Ball, Rutland; treasurer, Dr. Harry R. Ryan, Rutland, and censors, Drs. Herbert S. Martin, Cuttingsville, Schuyler W. Hammond, Rutland, and Charles W. Peck, Brandon.

WEST VIRGINIA.

Dr. McCormack in West Virginia.—During the month of September, Dr. J. N. McCormack has been filling engagements in West Virginia in pursuance of his work as chairman of the Committee on Organization. During the month, Dr. McCormack has spoken in fifteen cities, as follows: September 9, Hinton; 10, Charleston; 11, Parkersburg; 12, Sistersville; 13, Wheeling; 14, Fairmont; 16, Morgantown; 17, Clarksburg; 18, Weston; 19, Grafton; 20, Elkins; 21, Keyser; 23, Martinsburg; 24, Charlestown; 26, Bluefield. Reports from these meetings indicate that the reception accorded Dr. McCormack, as well as the results achieved, have exceeded the work done so far in any other state along this line. The public press throughout the state has been most cordial in its reception of him and most appreciative of the work which the American Medical Association is doing through him for the benefit and education of the public. The Sistersville *Daily Review*, September 13, says: "The address given last night was without doubt the most interesting one ever given in this city." The Fairmont *West Virginian* comments on the meeting as follows: "No doctor could attend one of these meetings without having a higher ideal of his profession, a clearer conception of his duties and a deeper interest in the welfare and health of humanity. The whole talk was an inspiration to those that heard it." The Morgantown *Chronicle* makes the following editorial comments under the head of "Preventing Disease:" "There should be not only cooperation among physicians themselves but the legislators and the people should lend their assistance. To prevent or minimize disease is of as great benefit to society as is the cure of disease after it has been acquired. It is only in recent times that proper steps have been taken to safeguard the health of our people and the work is now merely in its infancy, but physicians alone can not undertake reforms that are so essential. They must have the support of those in power. If the physician through the cooperation of the legislators and citizens, can cause many ailments which have been the terror of past generations to disappear, he will be a benefactor to the race and will be accomplishing his greatest mission to humanity." Dr. McCormack has closed his work in West Virginia and goes to Indiana for the month of October.

GENERAL.

Annual Meeting for Study of Epilepsy.—The eighth annual meeting of the National Association for the Study of Epilepsy will be held at the Jefferson Hotel, Richmond, Va., October 24-25. Reports from all states which are now caring for epileptics will be made by the secretary. All persons interested are invited. The day following the meeting in Richmond a session will be held at the Inside Inn at Jamestown. Further information may be obtained from Dr. James F. Munson, secretary-treasurer, Sonyea, N. Y.

The Plague.—Passed Assistant Surgeon Rupert Blue, U. S. P. H. & M.-H. S., reported on September 20 that there had been 35 positive cases of plague in San Francisco, with 21 deaths. On September 22 the complete report to date was 38 cases, with 22 deaths, and on September 30 the lay press announces that Dr. Blue has reported 29 deaths from the disease thus far.——On September 10 and 11 Passed Assistant Surgeon William C. Hobdy, U. S. P. H. & M.-H. S., reported that he had inspected a building which was found to swarm with rats, and in which dead rats were scattered over the floor. He examined two, which presented nothing suspicious, but the third had typical lesions of plague. A piece of the spleen from the infected rat was used to inoculate a pig, which on post-mortem examination showed all the lesions of plague, and pure cultures obtained at the time grew in a manner characteristic of plague.

Coming Society Meetings.—The thirty-third annual meeting of the Mississippi Valley Medical Association will be held in Columbus, Ohio, October 8 to 10, under the presidency of Dr. Horace Grant, Louisville. The meetings are to be held in Memorial Hall, and 101 papers are promised for the two sections. The address in medicine by Dr. George F. Butler, Wilmette, Ill., is on "Medical Men and Their Influence on Human Progress." The address in surgery by Dr. Frank D. Smythe, Memphis, Tenn., is on "Pathology, Etiology, Symptomatology and Technic of Supravaginal Hysterectomy for Fibroid Tumors of the Uterus."——The Medical Association of the Southwest will hold its annual meeting at Hot Springs, Ark., October 8 to 10, under the presidency of Dr. Charles M. Rosser, Dallas, Texas. The membership of the association comprises the states of Missouri, Kansas, Arkansas, Oklahoma, and Texas.——The Ohio Valley Medical Association will hold its annual meeting in Evansville, Ind., November 13 and 14, under the presidency of Dr. Brooks F. Beebe, Cincinnati. The annual address will be made by Dr. Curran Pope, Louisville.

FOREIGN.

Tuberculosis Exhibition in Ireland.—It has been decided to hold a tuberculosis exhibition in Dublin in October, under the auspices of the Woman's National Health Association.

Cholera in Japan.—Passed Assistant Surgeon Cummings reports that the cholera situation in Moji—a coaling station—is alarming, many cases occurring there daily, as well as in the surrounding country. One or two cases of cholera have occurred in Nagasaki, imported from Moji.

Care of Lepers in Australia.—The new lazarette on Peel Island, South Wales, is now occupied. Each patient has a separate and commodious house for himself. Mild cases are kept apart from the more severe ones. Whites are kept away from blacks, and there is strict isolation of the sexes. The different types of the disease are also kept apart.

Cholera in China.—Assistant Surgeon Ransom of the Public Health and Marine-Hospital Service reports from Shanghai that cholera has jumped into prominence in an astonishingly short time. The disease seems to be of the fulminant type, and many deaths are reported daily. Over 300 deaths are said to have occurred during the week ended August 3.

Proposed International Urologic Association.—Guyon, Albarran and other urologists are planning to organize an international association of specialists in this line, similar to the international Surgical Association. A preliminary meeting has been called for October 8 at the Necker Hospital, Paris, to discuss the matter, with a view to holding an international urologic congress next fall. Those interested can confer with the secretary, M. Desnos, Necker Hospital, Paris.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Typhoid Fever.

The management of typhoid fever may be considered under the following heads:

1. The general care of the patient.
2. The diet.
3. The management of the temperature.
4. The management of the bowels.
5. Stimulation.
6. The treatment of troublesome symptoms or complications.
7. The management of the convalescence.

1. THE CARE OF THE PATIENT.

This protracted but self-limited disease is managed, but not treated, and the better the judgment used in its management the less severe the disease and the less frequent the complications. A large, well-ventilated and sunlit room, situated where there will be the minimum amount of street and house disturbance is the first requisite. A high, single bed, comfortable but with firm springs so that deep impressions will not cause muscle and backaches is the next important necessity. If possible two nurses, or two people who can nurse, are needed for the proper care of this disease, which requires constant attention day and night.

The sponging that are necessary to keep down the temperature during the height of the disease will also, of course, keep the body clean, but the greatest care and the most perfect cleanliness of a typhoid patient is needed and essential. The mouth in typhoid fever requires special attention. The teeth should be carefully brushed and the mouth washed out with some mild antiseptic alkaline solution. If fissures or ulcerations occur they should be frequently swabbed with a full strength peroxid of hydrogen solution. If ulcerations about the mouth do not heal under this treatment, infrequent applications, i. e., once in three or four days, of strong nitrate of silver, or even the stick nitrate, will generally quickly effect a healing.

It is very essential for the nurses to understand that the patient is not to be continuously disturbed, but that all attention that he needs should be given, if possible, at regular intervals. In other words, the bathing, cleansing, food and medicine should all be done at one time and then the patient allowed to sleep, or at least to rest.

2. THE DIET.

We have certainly overfed typhoid fever patients. The large amount of milk generally administered is a mistake. This is especially true when there are tympanites, eructations of gas, heavily-coated tongue, and other symptoms of indigestion. On the other hand, it should not be forgotten that the patient will be ill, on a limited diet, from four to eight weeks, consequently we must not deprive him of nutriments which the system needs to further its normal physiology. In other words, he must have a certain amount of proteid, a little fat, a little carbohydrate, a little iron, a little salt, and plenty of water.

Milk in amount of from one and one-half to two quarts a day represents sufficient proteid and fat for an adult patient; however, it seems better from the intestinal inflammation that is present to limit the milk to one quart, and when there is much fermentation and indigestion to even a pint, in twenty-four hours. The milk probably represents as much fat as can be digested, but if the amount of milk is limited to one quart or less, more proteids, as two raw eggs a day, should be given. If the digestion is very insufficient, only the whites of the eggs may be administered. To this diet should be added the expressed juice from a pound of chopped raw steak each day.

The best method of preparing this muscle juice is barely to cover the chopped meat with cold water, allow it to stand for two hours, then the solution and the meat are pressed through a meat press. The solution is then put on ice and given in divided doses during the twenty-four hours, a little salt being added to each feeding.

The milk may be given hot or cold, or with a tablespoonful of lime water to each glass of milk, if it is deemed advisable to make the curds smaller. A little sparkling vichy may be added to the milk, if it is distasteful clear. This also tends to break up the curds. A pinch of salt in a glass of hot milk is also of advantage and, as above stated, salt is needed by the patient. If he is entirely deprived of chlorids he can not well make the hydrochloric acid needed in his stomach digestion. This diet can be varied by the administration of a thin, thoroughly cooked and strained oatmeal gruel, which will give the patient carbohydrate, which doubtless aids in protecting against the burning up of the fat and muscles by the fever. It also is good management to give, in the morning, a small cup of black coffee, well sweetened. The coffee is a stimulant and the sugar a food.

If milk absolutely disagrees, koumiss may be substituted, or skimmed milk in large amounts has its advantages.

Ordinarily the patient should receive nutrition but once in three hours, and if he is sleeping well at night, at longer intervals, and the best method is for the milk, in proper amount to suit the individual patient, to be given once in six hours, and on the alternate six hours one of the other foods, the egg, the beef, or the oatmeal gruel, or perhaps barley water (made by cooking a tablespoonful of prepared barley in a pint of water, straining and serving cold). If the patient is very feverish, and especially if the urine is very concentrated, he should be encouraged to drink large amounts of water. This may be acidulated with a little dilute phosphoric acid or a few drops of dilute hydrochloric acid, or with lemon, as seems best. Cracked ice should be allowed him if he cares for it, or tablespoonful doses of ice-water, but water taken in large amounts at one time should not be too cold.

If it is not advisable to give meat juice, iron should be given in some form, and the patient will not become so anemic from the prolonged illness. There is no better form for the administration of iron than:

R.	c.c.		
Tincturæ ferri chloridi	15		ʒiss
Syrupi acidi citrici	25	or	ʒi
Aquæ ad	100	ad	ʒiv

M. Sig.: A teaspoonful, in plenty of water, every six hours.

3. THE MANAGEMENT OF THE TEMPERATURE.

While a transient high fever, unless it is dangerously high as occurs in sunstroke, and while the mere fact of an increased temperature is now considered of less importance than a few years ago, it is a fact that a continued temperature, even above 102 F. for a long period, as occurs in typhoid fever, is dangerous to life, largely owing to the fatty degeneration, even of the heart, which it will cause. Consequently, in ty-

phoid fever the management of the temperature is of primary importance.

The exact temperature in typhoid fever at which, or above, antipyretic measures should be instituted varies with the physician's decision in the individual case. Ordinarily in this disease antipyretic measures should be used if the temperature is above 101 F. for any length of time. It is not necessary to make the temperature at which the sponging shall be done so low in the first few days of the fever, but experience teaches that, ordinarily, unless there is some particular symptom or set of symptoms that makes the decision otherwise, the toxemia is less, the cerebral disturbance less, the wasting less, the circulation better, and the prognosis better, when the temperature is kept between 101 and 102 F., if possible. In a large number of patients, whatever the antipyretic means used, it is not possible to do this, but if the temperature is lowered to 101 F. or thereabouts at repeated intervals, even if it remains there but a short time, the condition of the patient is much improved and the prognosis is better.

During the first day or two, especially if the diagnosis has not yet been made, a few doses of acetanilid, antipyrin or acetphenetidin (phenacetin), may do no harm and will modify the temperature and the headache which is present at this stage, although such preparations must be given with care. Acetanilid is well given as follows:

R.,	gm.	
Acetanilidi	1	gr. xx
Camphoræ monobromatæ	30	or
Caffeinæ citratæ	30	āā, gr. v

M. et fac capsulas 10.

Sig.: A capsule at once, and repeated in three hours, if needed.

[The above capsules may be repeated on the second day, and third day, if necessary, but more than two capsules should not be given during any one day.]

If the fever begins with a very high temperature and the stomach is in good condition, antipyrin may be given as follows:

R.	gm.		
Antipyrini	3	or	gr. xlv

fiat capsulas 6.

Sig.: Two capsules at once, with plenty of water.

[The antipyrin should not be repeated on the same day, but could be on the next day, if needed. It produces profuse sweating, which may cause some prostration.]

As soon as the diagnosis of typhoid fever has been made, or even the probability of a protracted fever, antipyretic drugs should no longer be administered, but the "cold-water treatment" of the temperature should be begun. The cold water treatment of typhoid fever was first inaugurated by Currie of Liverpool, in 1797, then advocated by Nathan Smith of New Haven, about 1825, and finally by Brand, in 1861, but was not thoroughly established, even as the Brand treatment, until about fifteen years ago.

The Brand method of immersing a patient in a bath at a temperature of 85 F. or even as low as 75 F., is ordinarily not necessary, and is generally inadvisable in the treatment of typhoid fever. The various methods of applying cold to reduce temperature may be summed up in the order of their severity as follows:

Sponging with tepid water.
Sponging with cold alcohol.
Sponging with cold water.
Sponging with iced water.
The application of wet sheets to the naked body.
Cold sprinkling.
Cold bath, or "tubbing."

The most frequently used is sponging with iced water combined with proper friction with rough towels. The reaction from cold water in any form, however, is sometimes greater and more rapid than occurs from sponging the body with tepid water and leaving a film on the surface of the body to evaporate. Whatever cold application is made, the ice-cap must be applied to the head during such application. An ice-cap to the head and cold compresses, or a coil to the abdomen with a continuous flow of iced water, will many times be successful in keeping the temperature at such a point that more wearisome cold applications are less frequently needed. The ice coil to the abdomen is also of advantage in tending to promote peristalsis and thus causing the passage of gas, and less distension occurs.

Contraindications to the use of the severer forms of cold applications are congestion in the lungs, intestinal hemorrhage, congestion or inflammation of the kidneys. Cardiac or circulatory weakness is often benefited by the mild cold applications, but would preclude the use of severe cold applications.

Even if the temperature is high and is not much modified by the applications of cold, the methods that disturb the patient greatly, as spongings, should ordinarily not be done oftener than once in three hours, and even then good judgment should be used lest the patient be too continuously disturbed.

Besides the temperature caused by the primary disease or infection, most diseases have that due to the secondary infection or the local inflammation and disturbance caused by the disease. This is especially true of typhoid fever, and if the bowels are allowed to become distended and food that is not properly digested is pushed, fermentation, decomposition, and putrefaction occur. The region of the ulcerations make good culture grounds for bacteria, and all this causes secondary infection and the temperature will be higher. In other words, the less intestinal fermentation and the cleaner and more at rest the bowels are, the less high will the temperature rise. The more the local distension and inflammation, the more readily the colon bacillus as well as the typhoid bacillus migrates to other parts of the body and causes secondary infections. Hence as near as we can approach bowel cleanliness without exhausting the patient, the less toxemia and complications we have to combat.

(To be continued.)

Pharmacology

REED AND CARNRICK'S METHODS.

An Examination of the Claims Made for Trophonine, Protonuclein, Nephritin and Peptenzyme.

The following resolution was submitted by a subcommittee:

The Council has examined several of the products of the Reed and Carnrick Company, and has arrived at the conclusion that these products conflict particularly with Rule 6, in that the claims made for them are grossly exaggerated, unwarranted and misleading. Believing that the methods of exploiting these unwarranted claims represent a vicious and dangerous tendency in commercial therapeutics, the Council authorizes the publication of its reports, together with explanatory comments.

The resolution was adopted by the Council and the matter is herewith published, as directed.

W. A. PUCKNER, Secretary.

REPORT ON THE PRODUCTS OF THE REED AND CARNRICK CO., JERSEY CITY, N. J.

INTRODUCTION.

The Council on Pharmacy and Chemistry has examined four of the principal products of the Reed and Carnrick Co., namely: Peptenzyme, Protonuclein, Nephritin and Trophonine.

These products, according to the manufacturers, are based on advanced research, and are said to be a new departure in therapeutics. These claims procured to them particular at-

tention; for the Council believes that original products, if they possess merit, deserve more encouragement than those whose only claim to originality consists in their name; while on the other hand, false claims of originality tend to discredit every advance. The Council also realizes the difficulty of judging correctly new and original claims which lie outside of the beaten paths. For these reasons, it has examined the claims made for these products with especial care, and believes itself justified in publishing its adverse opinion, and the considerations on which this is based. It has therefore directed the publication of this condensed report.

THE PRINCIPLES OF THE REED AND CARNRICK THERAPY.

The Reed and Carnrick products all appear to be based on a theory; but the various subcommittees to which these products were assigned have all encountered great difficulty in obtaining a clear conception of this theory, because the claims and statements of the manufacturers are very indefinite, vague and equivocal. These are generally couched in the form of partial, loosely connected quotations from various physiologic chemists. Removed from their original setting, these quotations are capable of diverse interpretations; and the original content throws no light on the subject, since none of these writers, we feel assured, had the Reed and Carnrick therapy in mind.

In other words, the application which has been made of these quotations would scarcely be countenanced by their authors, and amounts therefore to misquotation. In one instance, at least, to be cited later, the obvious meaning of the author has been exactly reversed. The direct statements of the manufacturers are, if anything, even more indefinite and vague, and it is difficult to trace the thread of logic through the texture of phraseology. The Council has therefore made every effort to obtain, by correspondence with the Reed and Carnrick Company, clearer and more definite statements; but although a great deal of time has been spent on this effort, the result has been rather unsatisfactory. On the whole, however, the Council believes that the following is a fair statement of the Reed and Carnrick theory:

THE THEORY.

Certain of the constituents of practically all animal cells possess properties of great therapeutic value, acting specifically on the organs from which they are derived. These properties are distinct from those hitherto associated with internal secretion; these constituents being at once directly assimilated by these cells, without change, and at the same time acting as physiologic stimulants to these cells. These specific properties reside exclusively in the unaltered nucleo-proteids and nucleo-albumins of the living cells, which act as ferments, and are hence given the new name of "nucleo-enzymes." These properties are completely lost if the substances are heated above 40°C., and by the action of even the mildest reagents. They may be preserved intact by drying the organs at temperatures not exceeding the above limit, or by extraction with glycerin. The Reed and Carnrick products consist essentially of organs thus dried, or of glycerin extracts, and hence are said to differ altogether from all other animal extracts or preparations whatsoever.

This, the Council conceives, is the essence of the claims of the Reed and Carnrick Company, shorn of useless verbiage. As here stated, however, it is nothing but a working hypothesis; and it remains to inquire, how it agrees with the known facts of science, or what new facts have been adduced by its supporters in substantiation.

A CRITICAL ANALYSIS OF THE THEORY.

An analysis of this theory reveals the following contradictions:

1. It is contended that organs dried at 40°C., or glycerin extracts, contain the constituents of the protoplasm precisely as they exist in the living cell. "All the primary substances of the trophic cells are present in Protonuclein with their activity unimpaired, and identical to the living cell." In other words, dried cells are living cells—an absurdity.

2. It is contended that these peculiar proteids are destroyed by heat and by the weakest reagents: "So delicate is Protonuclein that any chemical agent is liable to disturb its cellular activity." Nevertheless, it is asserted that these substances exert their peculiar action after passing through the alimentary canal, whereas every tyro in physiologic chemistry knows that the changes which proteids undergo during gastric, and especially pancreatic, digestion, are much more profound than the changes produced by cooking and even by fairly strong chemical reagents.

3. It is contended that these substances, representing unaltered protoplasm, are assimilated directly by the cells, without needing any elaboration, thus supplying the cells directly with their own cell-substance. To this it may be remarked:

(a) As shown under 1, the claim that these preparations represent unaltered protoplasm is absurd.

(b) As shown under 2, even if the preparations represented unaltered protoplasm, this would necessarily be broken down during digestion, and therefore would be altered before it reached the cells.

(c) Even if it were not altered and reached the cells in its original conditions, it is highly improbable that it would enter the cells without change.

(d) Even if they entered these cells unchanged, they would not supply them directly with their own cell-substance; for it must be remembered that these preparations are obtained from the lower animals, and that the protoplasm of every species necessarily differs from the protoplasm of every other species. All the evidence which we have of the effects of the direct introduction of foreign proteids is that they are more or less toxic rather than nutrient—witness the deleterious effects of the injection of foreign blood corpuscles or even of serum. Normally, the animal is protected against these deleterious qualities by the processes of digestion, i. e., by causing a profound decomposition of the proteids before they are assimilated. It is therefore very fortunate for the patients that Reed and Carnrick's assumption, that their products are directly assimilated without change, is untrue.

4. It is contended that living cells contain peculiar enzymes, "nucleo-enzymes," which are responsible for the metabolism of the living cells; and that these pass unaltered into the Reed and Carnrick preparations, and from thence back into the cells of the patient. It may be doubted whether the importance of enzymes to the metabolic activity of all cells has been definitely proven. However, accepting it provisionally as a more or less probable theory, it remains to be proven that: (a) The "nucleo-enzymes" are not destroyed during the death of the cell; (b) they are not destroyed by digestion; (c) they penetrate into the living cells of the patient so as to exert their actions.

To this it should be remarked: (a) Since the only test which we have for the presence of such ferments consists in the normal changes of metabolism; and since these changes are absent in dried cells or glycerin extracts, it appears probable that these enzymes, if they exist in the living cell, do not exist in the dried cell or glycerin extracts. (b) Granting the possibility that they exist there, it appears improbable that they should pass the ordeal of digestion uninjured, since there are few if any other ferments which are so resistant. (c) Granting the possibility that they escape digestion and enter the blood, the fact still remains that there is no instance known of a ferment entering into a living cell from without.

To summarize this analysis: It follows that the essential contentions of the Reed and Carnrick therapy are not only unsupported by the known and accepted facts of physiologic chemistry, but are for the most part in direct contradiction with these facts. The committees of the Council, therefore, inquired with care and diligence of the Reed and Carnrick Company whether they had any other data, any experimental evidence, for their claims. And this brings us to the detailed consideration of the several products.

REPORT ON TROPHONINE.

This article was investigated independently by two members of the Council. Since the two reports agree in their conclusions, we shall quote from only one. The first report held that the statements of the manufacturers are so vague and hazy that it is difficult to know their meaning; but that in so far as they mean anything, they are unwarranted, exaggerated and misleading. The second referee was also impressed by the obscure statements. In order to obtain a more definite basis for judgment, he furnished the secretary of the Council with a list of plain questions, to be addressed to the Reed and Carnrick Company. These were sent Jan. 11, 1907. The answers to these questions (Feb. 20, 1907) were so evasive and indefinite as to leave little doubt that the statements of the firm are intentionally vague. To put this beyond any doubt, a second list of questions was sent to the firm March 11, 1907. These replies (April 18, 1907) were also unsatisfactory. Since their method of evading a question consists in submitting many pages of theoretical dissertations, general discussions and quotations, which have only the remotest bearing on the plain questions submitted, it would occupy too much space to reproduce the correspondence in full, but some of it makes interesting reading and is indis-

pensable for judging the method of the firm. The correspondence on the part of the Reed and Carnrick Company was conducted by Dr. E. Leonard, Jr.

ITS COMPOSITION.

In the description of Trophonine submitted by Reed and Carnrick, after the mongrel synonym "(Sat. Sol. nucleo-(proteid et albumin cum enzymes) R. & C.)," it is defined as follows:

The nucleo-proteids and albumins are extracted from the glands with glycerin and the vehicle is made by adding to the watery extract of gluten the ferments of the pancreas, and afterwards beef peptone to which sufficient imported wine to make the amount of alcohol in the final product less than 14 per cent. by weight. The glycerin extract is then added to this vehicle until a precipitate begins to show from an excess of the organic matter, that is, until it is perfectly saturated. Alcohol 13.90 per cent. by weight, 17.14 per cent. by volume.

Since this appeared a very unsatisfactory description of a food product, the following questions were submitted to the firm:

1. From what glands is the glycerin extract made?
2. What proportion of glycerin is used?
3. What is the proportion of this glycerin extract in the finished product?
4. What is the nitrogen and carbohydrate content of the vehicle? If possible, give the quantities of the several proteids.
5. The question under 4, applied to the finished product.

To these questions, they reply, in the first place:

As you have not only written me, but also told me personally, that the work of the Council was a labor of love, and as some of the members, I understand, are connected with pharmaceutical firms, and further, as some of the questions which you ask relate directly to the manufacture, consequently you can see that I would not care to put on paper those things which could be used by another house, but in order that the Council may know that we are perfectly willing to let the medical profession know about the making of it, I shall be glad to tell any member of the subcommittee in regard to the same, provided, of course, he is not affiliated, either actively or in an advisory manner, or does not intend to become so affiliated with a manufacturing concern. However, I believe that any physiologic chemist will understand our answers to these questions, without further explanation on our part.

Evidently, Dr. Leonard credits the physiologic chemists with supernatural powers of divination, as will be seen from the following characteristic answer to Question 1, concerning the glands used:

The glands used in Trophonine are those glands which are the richest in the phosphorus and iodin matters. These products, which, as you know, physiologic chemists acknowledge to be essential for life.

To this the following reply was made: "If you consider that any physiologic chemist will understand what glands you mean by 'those glands which are richest in iodin and phosphorus matters,' why do you hesitate to say outright what glands you use? Furthermore, we have always understood you as saying that there was nothing secret about your products, that any one could make them, that you relied solely for protection on your superior facilities, etc. We wish to assure you, however, that it is the rule of the Council to refuse any communication which it can not divulge freely to the public."

In their reply, they retreat from their incautious admission of trade secrets, and now claim that they preserve secrecy in the interest of the physician! This is their reply:

Reed & Carnrick wish to emphasize the fact that there is nothing secret about their preparations and desire that the physicians know the truth about them. Why we did not mention the glands used is because it is easy to be misunderstood, for if we had said that the glands were the thyroid, thymus, parotid and pancreas, these names would be immediately associated with certain functions, which have been emphasized concerning these glands and consequenty overshadow their other important functions.

Apparently, too much knowledge is a dangerous thing! One might ask, however, dangerous to whom? It is evident from this that the Reed and Carnrick Company do not purpose to reveal the origin of Trophonine.

The answer to Question 3 was: "The proportion of the glycerin content in the finished produced is less than 10 per cent."

Question 4, concerning the nitrogen and carbohydrate content of the vehicle, was answered to the effect that this was wholly immaterial, since the product does not rely on its nitrogen and carbohydrates for food value, but on its nucleo-proteids and nucleo-albumins. The referee would not be inclined to classify as a "purely food product" a product whose action is independent of its nitrogen or calorific value; but since the makers chose to take this standpoint, the following query seemed pertinent:

"If the nucleo-proteids and nucleo-albumins are the essential features of trophonine, may we ask you to state plainly in what proportion these are present?"

To this the following characteristic reply was made:

We are dealing with true physiologic products and not with metallic salts, and when we say a saturated solution we mean a concentrated one.

It is therefore evident that the Reed and Carnrick Company do not purpose to enlighten the profession as to the true composition of Trophonine; and the referee holds that it conflicts with Rule 1.

ITS FERMENT CONTENT.

The action of Trophonine is referred by the firm largely to "nucleo-enzymes," which are said to assist digestion. Since this term appears to be peculiar to the Reed and Carnrick Company, persistent efforts were made to obtain enlightenment as to what they mean by it. These efforts were wasted. Since nucleo-enzymes were claimed to assist in digestion, they were asked:

6. What is the proteolytic power of the solution?
7. What is its amylolytic power? (Mention the method used in obtaining these results so that they may be verified by the Council.)

To this they answer, somewhat reproachfully and at some length, the pith of the matter being condensed in the last paragraph:

If we had said that Trophonine contained ordinary pepsin and pancreatin, then your question would have been a correct one, but as we claim that Trophonine contains the nucleo-enzymes, whose actions are to nourish the cells of the digestive glands, so that they will be able to do their work, both to secrete fluids for proper digestion and by means of the blood stimulate other digestive processes, and further, to aid in absorption, you have, we believe, misunderstood Trophonine, as you have misunderstood and consequently misrepresented Peptenzyme Elixir.

In other words, they acknowledge that Trophonine does not contain any digestive ferments, but claim that it stimulates the secretion of ferments. Of this, more later. At present it was of interest to learn something more about these nucleo-enzymes, and therefore they were asked:

"Please tell the committee just what 'nucleo-enzymes' are. The term does not seem to carry a definite significance to us, or to any of the physiologic chemists whom we have consulted. Do you mean zymogens? If so, what zymogens? In any case, are you able to furnish evidence that 'nucleo-enzymes' (whatever they may be) are present in Trophonine, and of the actions which you attribute to them?"

This elicited another characteristic reply, viz.:

Palladine isolated from thymine the enzymic thymase and enterotritase and by this isolation found that these products underwent changes in solution due to phosphoric acid and oxygen, but that when these were brought again into the human system they were returned to their original "nucleo-enzymic" form; how impossible to give percentages of molecules when their atoms change and then rearrange themselves.

Salaskin classified the enzymes according to their different stages and changes in solution and absorption when brought into the stomach.

Scheermesser, Siegfred and Grübler isolated the enzymes and kept them in solution and in solution-like form.

Albert isolated the enzymes to a powder-like white preparation. These were recognized by Buchner as the true enzymes and he concentrated these in a solution similar to the methods which we follow in the preparation of our products.

The referee is forced to conclude, from these indefinite and evasive replies to the direct questions, that the term "nucleo-enzymes" is devoid of meaning, and that there is no evidence for the presence of enzymes of any kind in Trophonine.

THE ACTIONS OF TROPHONINE.

In the pamphlet "Trophonine" the following occurs:

Trophonine (Sat. sol. nucleo-(proteid et albumin cum enzymes) R. & C.) is then a direct cell builder and nutrient to the cells themselves.

Why Trophonine is a Perfect Nourisher: It is a saturated solution of nucleo-proteids and nucleo-albumins, as Hammarsten calls them "complex phosphorized bodies and considered as nutritive material for the cells," thus the highest and most assimilable form of nutriment.

It is not a predigested food, which would cause the stomach to lose its own tonicity, the same as the muscles do in sickness, but it contains the nucleo-enzymes of the digestive glands, which not only aid in digesting food, but also stimulate the digestive glands to do their own work.

As Digestion Depends on Absorption, it is best to stimulate this absorption, which can be done in a natural manner by the nucleo-enzymes. The amount of nourishment assimilated will depend wholly on the ability of the digestive tract to take it up. No other preparation contains this natural stimulant to the absorbing powers of the digestive tract.

It satisfies hunger by the bulk, which gives the menstruum (*sic*), namely, the pancreatized gluten and beef peptone; this is cared for by the nucleo-enzymes when it reaches the stomach, and thus it leaves no residue to enter and irritate the intestinal tract.

These statements, while rather indefinite, seem to be intended to convey the following idea, namely: That nucleo-proteids and nucleo-albumins are the nutritive materials for

the cell (a statement attributed to Hammarsten), which implies that all other foodstuffs are practically useless. That these nucleo-proteids are directly transformed into cell-substance, without undergoing any change. (Indeed, from some of the correspondence, we gather that the Reed and Carnrick Company claim that the food value of nucleo-proteids, etc., is entirely destroyed by cooking.) That these nucleo-proteids stimulate the secretory processes of the digestive glands and absorption. That ordinary foods are absorbed only very imperfectly, but that nucleo-proteids are absorbed completely.

Since nearly every one of these statements is in direct contradiction with the known facts of physiologic chemistry, the referee could scarcely believe that he had understood them correctly; or if so, he believed it highly important that the evidence on which they are based should be made public. He therefore submitted a number of questions, which will be taken up seriatim, with the answers.

In the first place, the quotation from Hammarsten is in direct contradiction to what he really says. To give the Reed and Carnrick Company an opportunity to correct this, Questions 9 and 10 were submitted:

9. "The committee has sought diligently for the statement attributed to Hammarsten that nucleo-proteids and nucleo-albumins are 'the nutritive material of the cell.' Since the search was not successful, please supply the exact reference.

10. "Does Hammarsten refer to the nucleo-proteid contained in the cell, or to nucleo-proteids given by mouth?"

To which the following answer was made:

I am indeed sorry that I put the committee of the Council to such inconvenience as to require them to hunt so long and diligently through Hammarsten. Brought up in Harvard where the work for the first year in physiologic chemistry takes up thoroughly the animal cell, I had thought that the teachings were the same in the other schools, consequently if I may suggest that the subcommittee read the chapter in Hammarsten on the "Animal Cell," which is Chapter V in the fourth German edition, they undoubtedly will find much which will go to show them why we lay such stress on the product itself and not on the vehicle. We have not heard of Hammarsten publishing a volume on dietetics as inferred by question 10, nor do, we find it in our list of scientific works. May we ask who is the publisher, as it, no doubt, will have many facts which will be of interest to us.

The surmise that it was a misquotation being thus confirmed, a chance was given the firm to retract it. The following was therefore written: "The failure to find the statement attributed by you to Hammarsten is not due to unfamiliarity with the works of this author, as you somewhat hastily assume, but to the fact that Hammarsten has made no such statement; at least, several members of the Council have sought for it in vain. The nearest approach to your quotation is found in the third American edition of 1900 of the fourth German edition, on page 101, lines 9, 10 and 11, and also in the fourth American edition of 1904 of the fifth German edition, on page 118, lines 6, 7 and 8, viz.: 'The chief mass of the protein substances of the cells . . . consists of more complex phosphorized bodies, and that the *globulins and albumins* are to be considered as nutritive material for the cells . . . ', which is the *very opposite* of your quotation, that nucleo-proteids and nucleo-albumins are the nutritive material. We shall expect you either to give the page and line reference where your quotation may be found, or to explain to us how you come to misquote in this very strange manner.

"To relieve your anxiety, we would inform you that Hammarsten has not written any book on dietetics, so far as we know. If you have misquoted as to Question 9, Question 10 will be superfluous. Otherwise, please consider that Trophonine is usually administered by the alimentary canal—at least we know of no method of intracellular administration."

The only answer to this is contained in the following paragraph: "Meanwhile, please do not lose sight of the fact that true globulins belong to the nucleo-proteid group."

Since Hammarsten in his statement takes pains to contrast the albumins and globulins with the nucleo-proteids, this quibble does not in the least explain the misquotation, and one is constrained to assume that the misquotation was made with deliberate intent to deceive.

To pass now to another of their statements, it was asked:

11. "Do we understand you correctly that the nucleo-albumins and nucleo-proteids are absorbed without change into the cells, to act there as nutrients?"

Here is the naive answer:

"Why should not the nucleo-proteids and nucleo-albumins be absorbed without change? They are nucleo-albumins and nucleo-proteids."

To this the following answer was made: "Nucleo-albumins and nucleo-proteids are not absorbed without change, precisely because they are nucleo-albumins and nucleo-proteids. Please read Hammarsten, fourth American edition, p. 125, first paragraph, and then kindly answer the question. Also, tell us whether you know of any reason why these bodies should be absorbed unchanged into the cells from the blood." To this there was no reply!

Since the firm so greatly emphasized the superior absorbability of nucleo-proteids, they were asked:

12. "Have you any evidence for your statement that your solution leaves no residue to enter the intestinal tract?"

Answer: "As far as I know no soluble proteid or soluble carbohydrate ever leaves a residue in the intestinal tract."

This means that Dr. Leonard confesses that the claim for the superiority of Trophonine is false. To make sure of this, it was inquired again:

"If it were true, as you say, that no soluble proteid ever passes unabsorbed into the intestinal tract, then why do you lay such stress on the absorbability of Trophonine, as if it were something peculiar to it?" Evidently Dr. Leonard has a convenient habit of overlooking questions that can not be evaded, for this was not answered.

Finally, there was asked in the first letter:

13. "Have you any evidence that the so-called nucleo-enzymes stimulate absorption?" To which the following reply was made:

In regard to the last question, since it is agreed that the power of absorption in the intestines is a vital dialytical one depending on the cells themselves and that Hammarsten considers this the real digestive process, it would be quite sufficient for you to note the difference in time of the dialysis of a colloid solution containing and also one not containing our nucleo-enzymes. And also note the fact that inversion must take place in certain carbohydrates before they can be absorbed.

This being rather unconvincing, it was asked further:

"Please give us the details of your experiments that your nucleo-enzymes increase the 'dialysis of colloid solutions.'"

Evidence was also asked, showing that: (a) They "nourish the cells of the digestive glands;" (b) they "stimulate other digestive processes;" (c) they "aid in absorption."

These questions also met with silence!

The referee therefore holds that no evidence has been presented that the properties of Trophonine are in any way different from other alcoholic predigested foods; that the statements concerning the peculiar nutrient qualities of Trophonine are wholly imaginary; and that the quotation attributed to Hammarsten, in support of the theory, is a deliberate falsehood.

He therefore recommends that Trophonine be rejected because of conflict with Rules 1 and 6.

THE REPORT ON PROTONUCLEIN.

On this product also two independent investigations were made and reports submitted. These agree in their conclusions, so that only one need be quoted in full, as follows:

The subjoined report is derived from a consideration of:

1. A pamphlet, "The Rôle of the Cell in Health and Disease," issued by the Reed and Carnrick Company.

2. Answers by Dr. Leonard to a series of questions propounded by the referee.

The application for patents was also consulted. This last contained some very extravagant statements, which are, however, repudiated by Dr. Leonard, and which he claims have never been used elsewhere. These will, therefore, be disregarded.

Protonuclein Special and tablets have the name blown in the bottle; but Dr. Leonard, for his company, professed a perfect willingness to comply with the rules of the Council, and doubtless they would promptly correct any minor points to which objections might be raised. The admissibility of the article, therefore, hinges on the question of the admissibility of the pharmacologic claims. These claims are rather vague, and enveloped in a haze of theory and speculation calculated to obscure judgment; even specific questions addressed to the firm and answered by Dr. Leonard did not render the subject much clearer, although no attempt at concealment was made. The difficulty appeared to be that the ideas of the manufacturers themselves are rather indefinite. However, the following is believed to be a fair statement of the subject:

Protonuclein, according to the definition indorsed by the firm, is a powder prepared from various glands (thyroids, thymus, salivary, intestinal, lining of stomach, pancreas, spleen and the brain, including the area at the base). These glands are dried in a thermostat (at or below 100 F.); the fat is removed by ether, the dry glands disintegrated, the connective tissue is removed by sifting, the resulting powder is coated with an ethereal solution of benzoin, and mixed with milk sugar. The glands are used proportional to their relative weight in the body. Briefly stated, the powder represents the dried parenchyma cells and leucocytes of the organs used.

From such a product one would expect essentially the known action of nucleins, viz., hyperleucocytosis and its consequences; the thyroid might also have some effect; the digestive ferment would probably be nearly inactive, on account of mutual interference. No stress is laid on them in the literature, so that we may neglect them.

The nuclein content of the product is high (0.28 per cent. of phosphorus), and might well suffice to explain the therapeutic results ascribed to this article. The manufacturers, however, claim that Protonuclein vastly transcends ordinary nuclein by the possession of distinctive qualities. In support of this claim, two lines of evidence are adduced, the one experimental, the other speculative.

EXPERIMENTAL EVIDENCE.

The experimental evidence submitted by Dr. Leonard is as follows:

EXP. 1: If a fresh solution of Protonuclein in normal saline is added to a drop of blood on the warm stage, the leucocytes of the blood exhibit karyokinetic changes, "cellular activity." This effect is disturbed by overheating, fatty substances on the slide, or even minute traces of acids or alkalies.

EXP. 2: If gonococci are inoculated into the eyes of normal guinea-pigs, one as control, the other dusted immediately with Protonuclein, the inflammation will proceed slowly in the untreated specimen, while that treated with Protonuclein will promptly form a discharge; this discharge, however, is notably poorer in gonococci than that of the untreated animal, and the progress of the infection is less virulent.

EXP. 3: When Protonuclein is given internally, it causes a leucocytosis, reaching its maximum in five hours.

EXP. 4: Guinea-pigs inoculated with tubercle bacilli, and receiving 1 gm. of Protonuclein four times a day, survive longer than the infected animals which do not receive this treatment.

The referee is disposed to accept these experiments at their face value. However, these effects are precisely what would be expected from ordinary nuclein. In the absence of control experiments, comparing directly the effects of Protonuclein with those of an equivalent quantity of ordinary nuclein these experiments do not justify the claims that the action of Protonuclein differs from ordinary nuclein, not only in degree, but also in kind. They constitute certainly a very weak foundation for the large superstructure of theoretical speculations which is based on them, and which is advanced as a second line of evidence, and which attributes the effects of Protonuclein to some peculiar property, resulting from the fact that it represents cells untouched by excessive heat or chemical reagents. These speculations are rather vague, indefinite and lengthy. The discussion, therefore, will be confined to what appears to be the gist of the "theory of Protonuclein therapy."

THE THEORY OF PROTONUCLEIN THERAPY.

This theory appears to be that Protonuclein contains unaltered "primary substances" (of which more below), which are more easily assimilated by the leucocytes than ordinary or altered proteids; this is said to lead to a multiplication of these cells, and it is assumed that the young leucocytes, produced in response to Protonuclein, are more active than leucocytes produced in response to other products, in feeding the tissues, and in generating protective substances; in these ways increasing the nutrition and resistance of the tissues. The possibility of the cooperation of unknown "higher" ferments is also suggested.

All this appears, in so far as it refers to the distinction of Protonuclein and ordinary nuclein, to be pure speculation, built on the most slender basis of facts, and in many respects highly improbable and contradictory.

The "primary substances" referred to are defined in the pamphlet as "certain bodies occurring in every developing cell, and absolutely necessary for life and growth." In answer to query, Dr. Leonard defines them as "products found in all cells and differ from secondary substances, which may be found in some cells and not in others." This is somewhat indefinite as a basis for a far-reaching theory. Evidently, since these products occur in every cell, they can not as such serve as a basis for the claimed peculiarity of Protonuclein.

As to the claim that Protonuclein must act differently from other animal products, because it contains the constituents in an unaltered condition, this is purely an *a priori* assumption, which remains to be demonstrated. If the active ingredients are really so unstable that they are destroyed by all chemical agents, as claimed, it seems impossible that the activity would be preserved when Protonuclein is given by mouth, and therefore subjected to the very profound changes of digestion.[1] Nevertheless, this is one of the regular methods of administering the substance; evidently, therefore, the facts do not bear out the theory of Protonuclein therapy.

Furthermore, while the manufacturers speak of Protonuclein as if it contained the constituents of the protoplasm unaltered, this conflicts with all the data of physiologic chemistry. It is highly improbable that drying, even at this low temperature, will be without effect on the protoplasm. During this drying, autolysis must occur, the cells must be more or less digested by their own ferments. Subsequently, the product is treated with ether, a powerful coagulant of proteids, contradicting the statement (p. 4 of the pamphlet) that the cell material is all there and "in an uncoagulated form."

In conclusion, therefore, the referee holds that the statements as to the pharmacologic action of Protonuclein are not proved by the evidence submitted; and that they are improbable and unwarranted. Since the advertisements lay very great emphasis on these statements and theories, they are bound to be misleading. The rejection of Protonuclein and its preparations is therefore recommended. Should the manufacturers restrict their claims to demonstrated facts, the product may be considered as a new submission.

THE REPORT ON NEPHRITIN.

The report is based on: 1. The description furnished by the manufacturers. 2. A translation of a paper by M. J. Renaut. 3. A pamphlet entitled "Nephritin." These were all submitted by the manufacturers.

The paper by Renaut describes the appearance of certain microscopic granules in the renal cells called "grains of segregation," and propounds the theory that these carry on the secretion of the urinary constituents; that a deficiency of them is responsible for the phenomena of nephritis; that these granules can be supplied to the organism by the macerations of fresh kidneys in normal saline solution; and that this is curative in nephritis.

The paper is so dogmatic, so speculative, so lacking in essential detail, and translated so poorly, that intelligent criticism is out of the question.

The pamphlet on Nephritin quotes this theory of Renaut's, emphasizes the practical objections to the fresh macerations, and then claims that Nephritin represents all the actions of the maceration, but is fifty times as potent. In their submission to the Council they define this Nephritin as: "The grains of segregation from the cortex of the pig's kidney, the renal connective tissue being eliminated." The following question was addressed to the firm:

"Since the committee can not conceive of any anatomic method of isolating these microscopic structures, it feels obliged to call on you to submit evidence that your product agrees with its definition, either by submitting sufficient of your process of manufacture, or by any other method which you wish."

This question was answered by some obscure hints that microscopic structures may be separated by the centrifuge and that the miller is able to separate parts of the wheat kernel from other parts. The referee considers this answer unsatisfactory; but the firm promises more information later.

The referee further asked for detailed evidence of the claimed action of Nephritin, and for the method of assay which was used as a basis for the statement that Nephritin is fifty times as active as the maceration. In answer, the manufacturers state that they will supply the information when experiments now under way are completed.

It appears to the referee that the information supplied with this product is so meager, that its admission can not be considered. He therefore recommends that it be rejected, to be reconsidered, as a new submission, when the manufacturers are prepared to present their evidence and information in full. (It may be added that the firm should have waited until preliminary experiments were completed before launching such extravagant claims on the medical public.)

PEPTENZYME ELIXIR AND PEPTENZYME POWDER.

These preparations are said to contain "the enzymes and ferments of all the glands which bear any relation to digestion;" namely, the peptic glands, pancreas, salivary glands,

1. In one of the earlier pamphlets on protonuclein, a report by Prof. R. H. Chittenden on protonuclein is quoted, in which the following sentence occurs, showing that the Reed and Carnrick Company must be aware of the falsity of their claim: (The italics are ours.) Par. VII: "Obviously the action of the gastric juice (used in the digestion of the protonuclein) causes a solution and *digestion* of the albuminous portion of the nucleo-albumin and other albuminous matters present in the protonuclein, *leaving* a *true nuclein* with a large content of phosphorus, a reaction which is characteristic of nucleo-albumins in general."

spleen and intestinal glands. They are said to be "not chemical extracts, but pure physiologic products." The details of manufacture are very meager, but apparently the powder consists simply of the glands, dried and powdered, as in the case of the other Reed and Carnrick products, and the elixir constitutes an extract.

It is stated that these preparations digest proteids, starch and fat, and in addition stimulate and nourish the digestive glands; and, furthermore, that the ferments in these preparations do not interfere with, or digest, one another.

Examination by the Council showed that these preparations are practically devoid of any power to digest proteids or starch, when tested by the U. S. P. methods. Advised of this discrepancy, Reed and Carnrick acknowledge its truth, but now claim that their activity, while *nil* in the test tube, is developed in the body. To use their own words:

> Peptenzyme will give off its active ferments in the proper liquid medium and will show this action at the proper temperature, but please do not confound Peptenzyme with pepsin and pancreatin, for it is a truer physiologic product and based on the recent advances of the physiology of digestion.

Since none of the original statements of the firm contain any intimation that Peptenzyme will not digest in the test tube, the purport of these statements is to deceive. However, waiving this point, it is in order to inquire, what are the conditions under which Peptenzyme does digest? As far as we can gather from the statements of Reed and Carnrick, it develops its action only in the alimentary canal. This seems passing strange, for we can not recall any ferment which digests proteids and starches only in the alimentary canal, and not elsewhere. It is true that the ferments are contained in the cells in the form of so-called zymogens, which are themselves inactive; but these are all, so far as known, converted into the active ferments by the acid used in test-tube digestion experiments. Looking for the strong proof which would be required to substantiate this discovery of unknown ferments, we encounter only the following:

> Peptenzyme, as we have shown by its preparation, is able to digest every variety of albuminoid, changes proteids into peptones, emulsifies fat, and converts starches—in fact, it performs the normal digestive functions exactly as is done in nature. This we have determined, not only by laboratory processes but also by exhaustive experiments with living subjects in our own laboratory.

To show the presence of new ferments by the process of preparation is indeed a novel, but not a very convincing method of proof. It amounts to this: "We, Reed and Carnrick, imagine such and such ferments; hence these ferments exist." As to the laboratory experiments, no hint of their nature has been furnished, even when the firm was informed of the negative results of the two chemists employed by the Council; on the contrary, the correctness of these negative results was acknowledged. As to the "exhaustive experiments on living subjects"—we have seen above that Dr. Leonard acknowledged that the food is perfectly digested even without Peptenzyme. The firm has not submitted any evidence that it was digested more perfectly with Peptenzyme than without.

The claims that the nucleo-enzymes nourish and stimulate the cells have been discussed sufficiently in the report on Trophonine. The Council, therefore, believed that the statements concerning Peptenzyme were entirely unwarranted, and rejected the product.

CONCLUSION.

The Reed and Carnick Company pretends to have discovered a new method of cellular therapeutics, based on the advanced research of eminent independent investigators in physiologic chemistry, supplemented by the work of Reed and Carnrick laboratories. A critical analysis of these pretended discoveries shows that they consist of a tissue of vague speculations, which are not deducible from the researches which are quoted in their support, but that, on the contrary, they are in direct conflict with the known facts of physiologic chemistry. No facts are adduced in support of these speculations, or to explain the contraindications. Since the claims of superiority and novelty are based mainly, if not entirely, on these speculations, the Council has not taken up the question of their clinical results. These could scarcely be used as the basis of a theory of this kind. However, as far as one can judge from the reports adduced by Reed and Carnrick, these clinical results are in no way remarkable for their novelty.

A Woman Appointed Privat Docent at Vienna.—The authorities have confirmed the appointment of a Miss Richter as privat docent for Roman philology at Vienna, thus throwing open the doors to properly qualified women as teachers and assistants in the Austrian universities.

Correspondence

Probilin and Pertussin.

PHILADELPHIA, Aug. 27, 1907.

To the Editor:—I have been much interested in the valuable reports of the Council on Pharmacy and Chemistry, and have some personal interest in a recent one on probilin. The accurate information the profession receives from these reports is a just cause for congratulation, and, as a humble member, I sincerely and gratefully extend my thanks to the American Medical Association. A body of such character as the Council on Pharmacy and Chemistry should have support without stint from the members of the Association. The highly vaunted virtues of probilin led me into an investigation. I had some capsules prepared by the pharmacists, Frank E. Morgan & Sons, according to a formula which I had reason to believe would secure the results desired. They state that if the ingredients are carefully mixed they can be filled dry into capsules, but that they are very difficult to make into pills. The formula is as follows:

Phenolphthalein	gr. ii
Menthol	gr. 1/10
Acid sodium oleate (Merck)	gr. ii
Salicylic acid	gr. i
Purified ox gall	gr. ii

I have used both probilin and the above formula, and, I am bound to say, with results that were more or less indifferent. In a few instances they seemed to be of service. The alkalies combined in other forms, however, have been of equal, perhaps better, service.

PERTUSSIN.

While I am writing on the subject of proprietaries, I am reminded of an incident which adds to the justification for your splendid crusade against proprietary medicines. The children of a family in one of the large eastern cities, temporarily residing at the Jersey Coast, had whooping-cough. In a state of alarm, a very prominent specialist in children's diseases was telegraphed for. He arrived on the scene with bottles of pertussin in his grip and doled it out with the commendation of his authority. Members of a related family in a large city were given the remedy. It was passed on. From this family, another group, at that time in Maine, were the recipients of the great favor. In all instances the disease ran its usual course. The pharmacists and the physicians in attendance received material as well as moral blows by this act. The families soon saw that the "patent medicine," as they would call it, recommended by the professor, was not any better than any bottle they could have bought over the counter. The art of pharmacy and the science of medicine were thus strangled in their own household, so to speak, while the families feel that they were humbugged. Finally, the unkindest cut of all was given to the professor when one member said: "Well, that remedy is nothing but old squills, if that."

With renewed congratulations. J. H. MUSSER.

[There is no difficulty in making a pill that will contain the essential therapeutic ingredients. What virtues there are in the combination depend on the laxative action of sodium oleate (soap) and phenolphthalein and the antiseptic power of sodium salicylate which is aided by the weaker menthol. We suggest as a sample prescription the following:

R. Sodii oleatis (vel pulv. saponis)	
Phenolphthalein, āā	gr. xv
Sodii salicylatis	gr. xxx

Misce et fac pillulas No. xv. Sig.: One every three to six hours.

The above may be varied by increasing or decreasing the amount of either of the ingredients, but it must be remembered that both phenolphthalein and sodium oleate are laxatives. The dose of sodium salicylate as given in the above prescription is very small, the average dose being 15 grains. Hence, the amount of this ingredient should be very much increased if its general effect is desired. If the druggist can not procure the pure sodium oleate, the official sapo (soap) in powder form may be substituted. There is good reason for believing that sodium oleate or pure castile soap is therapeutically equivalent to the acid sodium oleate that has been so much lauded under

a proprietary name. Since the mystery of probilin has been removed, the several ingredients, that have been so favorably mentioned in the treatment of cholelithiasis, may now be used intelligently by physicians according to the needs of the individual case and as judgment dictates.—EDITOR.]

Artificial Vagina Made from Loop of Ileum.

COLUMBUS, OHIO, Sept. 25, 1907.

To the Editor:—In THE JOURNAL, May 11, 1907, page 1642, you give a brief synopsis of a paper by Häberlin, in which he describes a method of making an artificial vagina by the use of a piece of intestine. As I had described precisely this same method in *Annals of Surgery*, September, 1904, I at once wrote to Dr. Häberlin, and also to the journal in which his article appeared, calling attention to my undoubted priority. (Before making my contribution I had had an expert go through the library of the Surgeon's General's office, and he had assured me that my suggestion was entirely unique.) Dr. Häberlin at once replied to my communication, acknowledging my priority, but refusing absolutely to correct the impression which his article had given as to his originality, while thus far, the journal, the *Centralblatt für Gynäkologie*, has made no reply whatever to my communication.

Early in the present year I carried out my plan in the case of a patient whose vagina had entirely sloughed during her first labor. The operation was successful in every respect and I reported the case at the last meeting of the American Association of Obstetricians and Gynecologists. It will be published in due time. Under the circumstances, therefore, I think that I may claim originality both in the conception of the idea and its execution.

J. F. BALDWIN.

Treatment of Simple Goiter.

STEUBENVILLE, OHIO, Sept. 23, 1907.

To the Editor:—In your answer to the inquiry of Dr. H. M. Metcalf, in THE JOURNAL, Sept. 14, 1907, page 959, concerning the treatment of simple goiter, I fear that not quite enough stress was laid on the efficacy, in many instances, of thyroid extract. I have seen many patients apparently cured of simple goiter by the administration of thyroid extract alone, without the use of external applications or of iodin. While it is barely possible, although almost inconceivable, that exophthalmic goiter may rarely be the result of thyroid feeding—as claimed by Osborne and Rogers—this should not deter us from the use of such a sovereign and comparatively harmless remedy. The thyroid gland certainly decreases in size during its use in the majority of patients. When it is given in gradually increasing doses and suspended temporarily on the appearance of the first signs of thyroidism no harm can result from its use, and the practitioner who has previously tried all other remedies in vain will be gratified to find the goiter decreasing rapidly in size under the use of thyroid extract.

WILLIAM EDMUNDS KERR, M.D.

Miscellany

Invalid Food.

The belief that invalids need special food is the excuse for the production of mixtures and unusual foods designed to supply this want. The attempt to feed the sick with special foods has not in general been very successful, and much money has been wasted by patients on specially prepared foods which are especially dear when their nutritive value is compared with their cost. It is seldom, however, that such foods have been suspected of producing actually injurious effects.

Such a suspicion was the occasion of an examination of Du Barry's "Revelanta Arabica" by the New Hampshire Board of Health and a report of the analysis with some comments is published in the *New Hampshire Sanitary Bulletin*, July, 1907. The food is represented as a farinaceous preparation of great nutritive value and, according to instructions, a meal is to be prepared by boiling about two tablespoonfuls for fifteen to twenty minutes with a pint of water. In the case referred to the board of health the food appeared to produce peculiar symptoms described as "a peculiar weakness and dizziness, which persisted as long as the food was used, but disappeared when the diet was changed." Microscopic examination of the food showed it to consist essentially of lentil flour, containing about 24 per cent. proteid. There are some evidences that the lentil in common with other leguminous plants is apt to disorder the bowels and prove difficult of digestion, and this has been attributed to a poison residing in the seed hulls which, however, had been removed in this case. It is probable, however, that such seeds contain even in the seed itself substances which may prove injurious or poisonous to susceptible individuals. The bad effects of the food in the case reported may have been due to some such susceptibility or to an unusual amount of the toxic material contained in this particular sample of the food.

While it is possible that the unfavorable action of the food may be explained by such considerations the *Sanitary Bulletin* very properly calls attention to the erroneous notions which prevail regarding the nutritive properties of invalid foods in general. The *Bulletin* says:

"There is a tendency among manufacturers of foods of this class to make somewhat exaggerated statements concerning the nutritive value of their goods, the result being that the general public is apt to become impressed by the notion that such foods possess certain special or even marvelous sustaining qualities, and to assume that a tablespoonful of this or that preparation, on account of its "condensed" nature, represents as much nutriment as the average meal. But while some foods are more readily digested and assimilated than are others—and to this extent more nutritious—yet the fact should not be lost sight of that all foods, consisting as they do of carbon, hydrogen, nitrogen and oxygen, with traces of other elements, represent pound for pound, a definite and determinable amount of energy (nutriment)—which total, for the same percentage composition, can by no possibility be exceeded, regardless of the character of the food stuff.

"In how many cases the now common use of these preparations is responsible for a lack of sufficient nourishment—for conditions representing nothing more nor less than varying degress of starvation—is a question that is already just beginning to receive some attention among physicians."

Every physician knows, or ought to know, that a tablespoonful of solid farinaceous food can not contain more than one-twenty-fifth of the necessary daily nourishment of an individual even under the conditions of disease. In consideration of the possible idiosyncrasies of patients and their especial susceptibilities to certain foods which contain minute amounts of toxic materials, manufacturers of prepared foods should avoid the use of the foods likely to contain these toxic substances and obtain their materials from the well tried standard foodstuffs. It would be well also if they would state the source of their material so that the physician might decide whether or not the food would be likely to agree with his patients.

Suprarenal Extract in Diabetes Insipidus, Hematuria, Osteomalacia and Incontinence.—Varanini reported in the *Gazz. degli Osp.*, May 19, page 637, a case of diabetes insipidus and one of threatening hematuria, successfully treated by administration of a few drops daily of a 1 to 1,000 solution of a suprarenal preparation. The hematuria had persisted unmodified by the measures which had conquered the other symptoms in hemorrhagic purpura in a boy of 11, but it subsided almost immediately after a single dose of the suprarenal extract. Tanturri's success with suprarenal treatment in a case of osteomalacia was recently chronicled in these columns. It is going the rounds of the press as "an almost miraculous cure." His experience confirms Bossi's assertions in regard to the almost specific action of suprarenal treatment in osteomalacia. Zanoni reported in the *Gazz. degli Osp.* for April 24 a series of 132 cases of essential incontinence of urine treated with suprarenal extract, with striking results in the majority. He cites the 62 in which the benefit was most marked. One patient was a young woman with incontinence from infancy.

The enuresis ceased after the first day of treatment, but recurred after a few days when treatment was suspended. Resumption of the treatment for a few more days was followed by a definite cure. The cure was obtained most promptly in children under 7. The treatment was found entirely harmless and in some cases seemed to have a striking action on the general health.

Epilepsy.—G. C. Shockey, Chicago, in the *Chicago Medical Recorder*, July 15, states that the first element in the treatment of epilepsy is the control of the patient. In the majority of cases this is best accomplished in a special institution where residence and control are largely voluntary, and where in addition to ethical factors the patient may be relieved or cured of one of the worst afflictions of the human race. Every factor which may influence the mental or physical welfare of the patient must be taken into account. Shockey states that alcoholics are particularly harmful, as are conditions of autointoxication and indigestible food. No patient, he declares, was ever cured of epilepsy by being given a prescription for his fits and sent on his way. These patients need and deserve careful study and consideration. They need the encouragement and direction of the physician and should be seen at frequent intervals until a cure is effected. Of the drugs used in the treatment of this condition Shockey states that the bromids appear to hold first place in efficiency. Chloral and opiates, he says, are useful in emergency, i. e., in status epilepticus, but should be given with caution, bearing in mind the tendency to exhaustion from severe attacks. He also advises the supplementary use of tonics and stimulants. The bromids should not be given to the extent of bromism and the results of epilepsy on the mentality should not be confounded with the effects of the bromids. He discusses the serum treatment of epilepsy but without giving an opinion of its merits. Surgery, he asserts, has a place in the treatment of this condition in certain selected cases—the majority being of traumatic origin.

Laryngeal Perichondritis During Typhoid.—Birkett and Muckleston, in the *Montreal Medical Journal*, report a case of perichondritis of the larynx occurring during the course of typhoid fever in a male patient, aged 21. By the use of steam and vapor inhalations the man was temporarily relieved, but suddenly he developed great inspiratory distress, the breathing became stertorous and the pulse rapid; the facial expression was one of great anxiety. Tracheotomy was performed and the after-course of the condition was satisfactory. Four months later the true cords were fixed in abduction, but hidden in their posterior half by a smooth, globular mass, gray in color, and apparently adherent to the left arytenoid cartilage. His voice was hoarse, but his articulation was intelligible. In the course of six weeks more this mass underwent a slow change, gradually decreasing in size, and uncovering the previously hidden part of the rima. Repeated attempts at dilatation were made under local anesthesia, but nothing larger than a laryngeal probe could be passed. As the man wished to get rid of the tube, he was readmitted to the hospital. Exploration of the trachea under a general anesthetic showed considerable narrowing of the lumen from granulations along the track of the tracheotomy tube. All things considered, and notwithstanding the patient's wishes, the authors felt that further operative treatment was not justified. The man was advised to wear the tube for his voice, at least for a time, especially as his condition did not incapacitate him for light work.

Another Field for the General Practitioner.—Mackenzie, in the *Western Canada Medical Journal*, states that another field which awaits the general practitioner's exploration is the recognition of that stage of disease when the prospects of a cure have passed. When text-books are consulted, directions are generally given for treatment. That a stage is reached in every disease when recovery can not be looked for is generally ignored, and from some writers' statements, one would fancy that their patients never die. If the advice of a consultant is sought, energetic means are too often recommended in the vain hope that recovery may ensue. These being unsuccessful, the patient wanders from physician to physician, trying methods and remedies for a complaint that can not be cured. Now, says Mackenzie, if it were possible to recognize a stage when recovery is hopeless, much might be done to render the patient's life bearable and even interesting with his crippled faculties. Whatever energy he has might be directed into useful channels, and he would be spared the exhaustion and disappointment that result from chasing the shadow of renewed health. Every practitioner can recall cases in which money and strength have been spent in the vain attempt to find a cure, and in which the patient has not only been exposed to needless suffering, but the family has been hard pinched by the useless waste of money.

One-Sided Disease of the Labyrinth.—Krotoschiner, in the *Archives of Otology*, August, 1907, states that the danger of a non-recognized suppuration in the labyrinth makes it desirable that there should be methods by which a nearly exact picture of the functional disturbances of the labyrinth can be obtained. Those tests which are most reliable, he states, and which are applicable to most cases and sufficient generally to make a diagnosis are as follows: 1. Hearing tests—if possible the construction of a hearing relief. If an extensive hearing test can not be made, it should be determined whether or not the forks, from *a* down, are perceived on the diseased side. 2. Static examination on a horizontal plane—two-leg position, toe position, standing on right leg and then on left leg, bending the trunk forward, backward right and left. 3. Dynamic examination—walking and jumping. 4. Examination with the goniometer. This gives such remarkable results that it should be performed when possible, although, Krotoschiner states, we can not yet say that it gives any definite information for diagnosis. 5. Centrifuging, which thus far has not given any definite results, can be discarded for practical purposes.

Another Method for the Prevention of Plague in India.—On account of the religious beliefs of some of the natives of India who are averse to killing animals, the British government has encountered great difficulty in carrying out the destruction of rats so necessary for the eradication of plague centers. Colonel Bannerman of the Indian Medical Service, has advocated the employment of cats for this purpose, and this idea is endorsed by Major O. R. A. Julian of the same service, who suggests the holding of cat shows, with prizes for the best cat in a village, the best ratter, etc. The *Journal of Tropical Medicine* states that provided the natives do not suspect that the true object is for their own good and for the prevention of plague, it is possible that the plan might succeed, for, as Major Julian remarks, anything that appeals to the gambling instinct stands a fair chance of success among the Hindus. Their present attitude is, however, a pig-headed opposition to any and every method of protection introduced by the authorities.

Qualifications for a Nostrum Manufacturer.—The *Druggists Circular*, September, 1907, in reply to an inquiry, thus defines a manufacturer of nostrums:

A maximum of gall, a minimum of conscience, a comfortable working capital, and a genius for writing deceiving advertisements; and, perhaps, a formula or two would be found useful. However, we shall not cut off our querist quite so short, but will add that while the different states have laws regulating the practice of pharmacy, the nostrum manufacturers have been able to exert enough influence on legislators—through the "red clause" newspaper or otherwise—to secure for themselves specific immunity from the operations of such statutes. The recently enacted pure food and drug laws are not altogether so favorable to the nostrum interests, but the manufacturers, by observing a few simple precautions, may not only escape any trouble on account of these laws, but may actually turn them to account as aids in their advertising.

Ineffectiveness of the So-Called Solid Formaldehyd.—The extensive use of solid formaldehyd generators in California led that state's Board of Health to have experiments made to determine their efficiency as disinfectants. The results are reported in the *Monthly Bulletin* of the California State Board of Health, July, 1907. The preparation used seemed to be an efficient surface disinfectant when used in the proportion of at least two ounces per 1,000 cubic feet, but at that proportion could not be depended on for any penetration. The fire risk in using it is not to be disregarded. The report regards the

permanganate method (THE JOURNAL A. M. A., Jan. 12, 1907, p. 159) as preferable, and states that, if the solid formaldehyd is to be used at all, much larger quantities are required than are given in the directions.

Herpetic Inflammations of the Geniculate Ganglion.—J. Ramsay Hunt, in the *Archives of Otology*, August, 1907, states that the diagnosis of these conditions is not difficult. The prodromal symptoms, the intense neuralgic character of the pain (pre-herpetic and post-herpetic neuralgia and otalgia), with the appearance of the characteristic eruption, should separate this from all other affections of the ear. Yet, he declares, many of the cases are not recognized and classified properly. The area of the eruption is often so small, and the redness, swelling and tenderness of the auricle so great, that many cases, he has no doubt, are regarded as diffuse inflammations of the auricle, perichondritis, frost bite, etc. In the later stages, with itching and scaling, the affection might be confused with eczema of the auricle.

Tuberculosis in the Dog.—P. Ramos discusses the prevalence of tuberculosis in the dog in the Argentine Republic in a recent communication to the *Semana Med.* for August 8. He encountered recently a dog with tuberculous peritonitis and considerable dropsy. The tuberculin test was negative, but autopsy revealed the unmistakable lesions. He warns that ascitic and pleuritic accumulations in dogs should always suggest a tuberculous process, especially when there is nasal discharge and cough. The dog's discharges, the urine in case of kidney or prostatic tuberculosis, and the feces may disseminate infection, while a tuberculous fistula or other lesion, regarded as an ordinary trifling sore, may be spreading tubercle bacilli broadcast. The dog is also a frequent source of contagion of hydatid cysts in that country, where they are unusually frequent.

The Infant's Feeding Bottle.—Dr. H. W. Froehlich, Pine City, Minn., writes to THE JOURNAL, directing attention to another danger in the use of feeding bottles with a long tube attachment. He was called to see an infant which had been crying and restless for several days and which had lost weight gradually since it was born. On examination he found that there was nothing wrong with the child physically, but that when the bottle was put to its mouth it would nurse vigorously for a few minutes and then drop the bottle and begin to cry. He noticed that milk only flowed part way up the tube and then dropped back so that the child got nothing. A bottle with an ordinary nipple was substituted, and since then the child has taken its milk without any trouble and has gained in weight.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, and the request of the writer not to publish name or address will be faithfully observed.

CONTINGENT FEES AND TESTIMONY FOR PAY.

SEATTLE, WASH., Sept. 21, 1907.

To the Editor:—An attorney in this state, conducting a damage case against a railway company, engages several physicians to make examination of the plaintiff and to give expert testimony, his promises of payment of expert fees being conditional on final recovery of damages from defendant company. The jury awards heavy damages; but the Supreme Court orders a new trial, and the case is finally settled out of court on payment by the company of $5,000, of which it is understood the attorney receives half for costs incurred in the case. The attorney denies liability to the doctors on the ground (1) that he has not "won the case," and (2) that he had acted simply as attorney, and that liability, if any, rested with his clients. The physicians sue the attorney in the justice court, and each gets judgment for his fee. The attorney appeals each case to the Superior Court, and in the first case tried the judge finds that the attorney is not personally liable in the absence of a specific agreement to that affect; and though the physician had sworn that the lawyer had promised to pay the fee out of the contingent he had expected to earn, the judge does not consider the evidence sufficient unless confirmed by a disinterested witness, and finds for the defendant lawyer. Will you be so kind as to express your opinion on this case, commenting, if possible, on the ethical, as well as on the medicolegal bearings.

W. R. TYMMS.

ANSWER.—There is a discrepancy in this account. According to the statement the attorney's promise of payment was conditional on "final recovery of damages from the defendant company." The fact that as the case was settled out of court the attorney did not "win the case," though in legal phraseology perhaps accurate, has nothing to do with his undertaking to pay on the final recovery of damages; for damages were certainly recovered, whether by judgment or arrangement matters not.

As regards his non-liability personally when acting as attorney, in the absence of any evidence of a specific agreement, we do not see that the judge could have decided otherwise on that score. Assuming the facts to be as stated, however, the attorney shows up in a very disreputable light.

As to the ethics of the case, we are totally unable to approve of medical experts testifying for a contingent fee. The present system, of allowing expert witnesses to be engaged by either party and paid by them, is undoubtedly to blame for the very general discredit into which expert testimony has fallen with the public, the judiciary, and even with the profession itself; for it is expecting too much of human nature to suppose that a witness engaged on such terms will not be at least unconsciously biased in favor of the side by which he is called, and for which he consents to testify, and we all know how great an influence a prepossession has on the results of scientific observation and judgment. But the expert witness is theoretically supposed to be, and should be, not in any sense a partisan, but an absolutely impartial adviser on scientific matters to the court. If, then, there is such grave danger of unconscious partisanship, to say the least, in the engagement by litigants at their own charge of an expert witness to give evidence for or against in a given case, how much greater must be the liability thereto when his remuneration is made contingent on victory by the litigant on whose behalf he is testifying: Surely there can be no question as to the impropriety of such an arrangement.

ETIQUETTE AS TO FEE FOR SUBSTITUTE OBSTETRICIAN.

COLUMBUS, OHIO, Sept. 25, 1907.

To the Editor:—In THE JOURNAL, September 14, page 959, you state in a case in which one physician attended an obstetric case in the absence of another, the fee should have been paid to the family physician, who would remunerate the actual attendant as he saw fit. Article III, the old Code of Ethics, said, on "The Duties of Physicians as Respects Vicarious Offices," section 1, paragraph 2: "In obstetric and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates." So far as my experience goes, and in this particular part of the country, this rule has always held good and the attending physician has been given the fee. J. F. BALDWIN.

LORAINE, TEXAS., Sept. 17, 1907.

To the Editor:—In THE JOURNAL, September 14, I see your decision in the Memphis case, in which Dr. A was engaged to attend a patient during confinement, but was otherwise employed at the time, so that Dr. B attended. You say that Dr. A was entitled to the fee. If I remember correctly, the Code of Ethics said that obstetric work is an exception to the rule, and the fee is due to Dr. B, though the case belonged to Dr. A and should have been turned over to him at once. I think this would be right. T. A. MARTIN.

ANSWER.—Our correspondents will note that we said, "this is a matter of custom, which varies with locality," and the course we suggested we described as "the ideal course, and one adopted in many places," giving our reason for it later. Undoubtedly, however, according to the prevalent custom in many localities, our correspondent's view is correct. Both views are legitimate, and no fault could be found with action along either line, although we admit that our preference is for the more altruistic of the two.

SO-CALLED CARDIAC ASTHMA.

DEARBORN, MICH., Sept. 20, 1907.

To the Editor:—I have a patient of neurotic temperament, afflicted, lately, with what some call cardiac asthma. When on a lake trip, during a storm, she became frightened, and a severe attack of the dyspnea followed. This attack yielded promptly to hypodermic of morphin and atropin, and this treatment was required throughout the lake trip. Since then, by resting after meals and taking at night ½ gr. of codein, and, if the attack is threatened by breathing the nitrite of amyl, she has held the attack in subjection. But there is no evidence of any improvement, as every evening the attack threatens her. In addition to the above remedies she takes 1/60 gr. strychnin sulphate three times a day after meals. I am satisfied that the case is not cardiac, but has to do with the vasomotor system, as any mental excitement, such as visitors or fear, will bring on the attack. Will some professional brother be kind enough to suggest some remedies and means of building up the brain and sympathetic system. The iodids, bromids, narcotics, etc., simply alleviate, do not cure. The patient is the wife of a country physician, and is a great source of anxiety and care to him.

SAMUEL P. DUFFIELD, M.D.

ANSWER.—Asthma may reasonably be considered as a vasomotor neurosis and the vasomotor neuroses probably depend on a toxic cause. This being true, the rational procedure in a case like the

preceding is to make all investigations possible to ascertain the source of the toxemia. The digestive functions should be carefully investigated and the urine examined for indican and the amount of ethereal sulphates as indicative of possible intestinal putrefaction. Blood pressure examinations should be made, and if evidence of high arterial tension is obtained this fact may be used as a therapeutic guide. The nose and nasopharynx should be carefully examined. Whether intestinal putrefaction be shown or not it is advisable to remove meat from the dietary unless there is some distinct contraindication to such a course. If high arterial tension is discovered the prolonged use of vasodilators, among which aconite may be mentioned, is a rational remedy. Many empirical remedies have been recommended. One of the latest is diphtheria antitoxin, tried by F. E. Kitzmiller with success in his own case (THE JOURNAL, March 23, 1907, p. 1045).

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, were issued Sept. 28, 1907.

Freeman, P. L., asst.-surgeon, ordered to Fort Riley, Kans., for duty.

Pierson, R. H., asst.-surgeon, in addition to his present duties at Fort Mason, Cal., will report in person to the commanding general, Department of California, for duty as attending surgeon at San Francisco, Cal. Ordered to report in person at Army General Hospital, Presidio of San Francisco, Cal., for examination for advancement on Oct. 9, 1907.

Whitmore, E. R., asst.-surgeon, assignment to duty in the Philippine Islands, revoked. On arrival at San Francisco, Cal., with the 18th Infantry, ordered to report at Army General Hospital, Presidio of San Francisco, Cal., for observation and treatment.

Wilson, W. H., surgeon, and Shimer, I. A., asst.-surgeon, appointed members of board to meet at Sandy Hook Proving Grounds, N. J., on Oct. 8, 1907, for the examination of such captains of the Ordnance Department as may be ordered before it for promotion.

Smith, L. L., asst.-surgeon, granted 7 days' leave of absence when relieved from temporary duty at Fort Monroe, Va.

Eastman, W. R., asst.-surgeon, leave of absence extended 30 days.

Flagg, C. E. B., asst.-surgeon, relieved from duty at Vancouver Barracks, Washington, and on expiration of his present leave of absence, will proceed to Fort Crook, Neb., for duty.

Porter, R. S., asst.-surgeon, will, on the expiration of his present leave of absence, proceed to Fort Huachuca, Ariz., for duty.

Russell, F. F., asst.-surgeon, now on temporary duty in the office of the Surgeon General, will report in person to the Surgeon General of the Army for assignment to duty as curator of the Army Medical Museum.

Field, P. C., asst.-surgeon, granted 30 days' leave of absence.

Le Wald, L. T., asst.-surgeon, granted 14 days' leave of absence.

Mason, C. F., surgeon, ordered to proceed to Fort Washington, Maryland, thence to Fort Hunt, Virginia, on inspection duty.

Arthur, W. H., and Winter, F. A., surgeons, appointed members of a board of medical officers to meet at the General Hospital, Washington Barracks, D. C., for the physical examination of such field officers of the Army as may be ordered before it.

Ashford, Mahlon, Barber, J. R., Cowles, C. D., Jr., Huber, E. G., Lambie, J. S., Jr., McKinney, G. L., Phillips, H. A., Snyder, H. M., Tasker, A. N., and Worthington, J. A., contract surgeons, ordered to Washington, D. C., for a course of instruction at the Army Medical School, beginning October 1.

Tignor, E. P., dental surgeon, ordered from Fort Adams, R. I., to Fort Greble, R. I., for temporary duty.

Brewer, I. W., contract surgeon, granted leave of absence for two months.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ended Sept. 28, 1907:

Taylor, E. C., P. A. surgeon, ordered to the Naval Hospital, N. Y.

Dean, F. W. S., P. A. surgeon, detached from the Navy Yard, New York, N. Y., and ordered to the *Alabama*.

Angwin, W. A., asst. surgeon, detached from the *Scorpion*, and ordered to the Naval Hospital, Norfolk, Va.

Field, J. G., surgeon, detached from duty with Marine Rendezvous, Houston, Texas, ordered home, and granted leave for six weeks.

Cole, H. W., asst. surgeon, detached from the *Alabama* and ordered to the Naval Training Station, Newport, R. I.

May, H. A., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

The following officers detached from duty at the places indicated after their respective names, and ordered to instruction at the Naval Medical School, Washington, D. C.:

Asst.-Surgeons H. A. Garrison, Naval Hospital, Newport, R. I., R. Hayden, Naval Hospital, Annapolis, Md., S. L. Higgins, Naval Hospital, Norfolk, Va., F. W. Smith, Naval Hospital, New York, N. Y., O. V. Huffman, Naval Hospital, Norfolk, Va., G. Trimble, Naval Hospital, Norfolk, Va., H. R. Hermesch, Naval Hospital, New York, N. Y.

Acting Asst.-Surgeons F. W. McGuire, F. W. P. Hough, Naval Hospital, Boston, Mass., and K. C. Melhora, Naval Hospital, Norfolk, Va.

Asst.-Surgeons E. V. Valz and J. C. Clayton, ordered to the Naval Medical School, Washington, D. C.

Taylor J. S., commissioned surgeon from Oct. 7, 1906.

Ohnesorg, K., commissioned surgeon from June 16, 1907.

Dorsey, B. H., commissioned P. A. surgeon from March 2, 1907.

Grayson, C. T., McLean, N. T., commissioned P. A. surgeons from June 28, 1907.

Funker, C. W. O., Lawrence, H. F., Holeman, C. J., Hale, G. D., Haward, A. B., appointed asst.-surgeons from Sept. 21, 1907.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Sept. 27, 1907:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 1-7, 4 cases.
Delaware: Delaware Breakwater Quarantine, Sept. 24, 1 case, 1 death (from S. S. *Vicana*, from Tagal, Java).
Iowa: Ottumwa, Sept. 14, 1 case.
Kentucky: Louisville, Sept. 6-12, 1 case; Covington, Sept. 8-14, 1 case.
Louisiana: New Orleans, Sept. 8-14, 1 case.
Michigan: Detroit, Sept. 1-14, 1 case; Saginaw, Sept. 1-14, 4 cases.
Minnesota: Stillwater, Aug. 1-31, 3 cases.
Ohio: Cincinnati, Sept. 6-13, 1 case.
Utah: Salt Lake City, Aug. 1-31, 3 cases.
Washington: Spokane, Aug. 1-31, 2 cases.
Wisconsin: Milwaukee, Sept. 8-14, 2 cases.

SMALLPOX—FOREIGN.

Africa: British South Africa: Kimberly, Aug. 1-31, 1 case.
Austria: Vienna, Aug. 24-31, 23 cases, 6 deaths.
3 cases, 70 deaths, cases among foreigners, deaths among natives.
China: Chefoo, Aug. 3-10, 1 case; Shanghai, July 28-Aug. 16, France: Paris, Aug. 26-31, 4 cases, 1 death.
Greece: Piraeus, Aug. 26-31, 1 case.
India: Calcutta, Aug. 4-10, 3 deaths.
Mexico: Aguas Calientes, Sept. 1-7, 4 deaths; Mexico City, Aug. 11-17, 7 deaths.
Portugal: Lisbon, Aug. 24-31, 5 cases.
Russia: Moscow, Aug. 18-24, 2 cases; Warsaw, Aug. 4-10, 1 death.
Spain: Valencia, Aug. 25-Sept. 1, 22 cases, 1 death.
Turkey in Europe: Constantinople, Aug. 25-Sept. 1, 1 death.
Turkey in Asia: Bagdad, Aug. 3-10, present.

CHOLERA.

China: Amoy, July 21-27, 1 case, 1 death; Amoy, Kulangsu, native city, present; Shanghai, Aug. 10, 3 cases, 90 deaths (cases foreign, deaths native).
India: Bombay, Aug. 6-10, 60 cases; Calcutta, Aug. 4-10, 13 deaths; Madras, Aug. 10-16, 1 death; Rangoon, Aug. 4-10, 1 death.
Russia (cases mainly from vessels): Astrachan City, July 14-25, 354 cases, 123 deaths; Astrachan district, Aug. 22-25, 19 cases; Janotajewsk district, 1 case; Zarow district, 3 cases, 12 deaths; Atzman-Stanitza, Aug. 19, present; Baku, Aug. 25, 2 cases, 2 deaths; Jurino, Aug. 26, 2 cases; Melokes, Aug. 25, 6 cases, 2 deaths; Nikolajewsk, 12 cases, 8 deaths; Nizoni, Novocorod, Aug. 26, 2 cases; Samara, government district, July 16-Aug. 4, 50 cases, 10 deaths; Samara, July 16-Aug. 25, 202 cases, 92 deaths; Stavropol, July 28-Aug. 5, 3 deaths.

YELLOW FEVER.

Cuba: Cienfuegos, Sept. 18-24, 4 cases, 1 death; Total from Aug. 3-Sept. 24, 54 cases, 15 deaths; Habana, Sept. 24, 1 case; Santa Clara, Sept. 18, 1 case; Jovellanos, Sept. 24, 1 case, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Sept. 18-25, 13 cases, 8 deaths; total from Aug. 12 to Sept. 25, 42 cases, 25 deaths.
China: Amoy, July 21-Aug. 3, 3 cases, 3 deaths; Amoy Native City, estimated 20 deaths daily; Foochoo, Aug. 3, present; Foochoo, Hinghwa suburb, Aug. 3, epidemic.
India: General, July 27-Aug. 3, 2, 548 cases, 1,357 deaths; Bombay, Aug. 7-20, 30 deaths; Calcutta, July 21-Aug. 10, 27 deaths; Rangoon, Aug. 3-10, 29 deaths.
Mauritius: Aug. 15-22, 4 cases.

Marriages

CLAUD M. CAMPBELL, M.D., Rochester, Vt., to Miss Pauline Batchelder of Arlington, Vt., recently.

CURTIS BURNAM, M.D., Baltimore, M.D., to Miss Florence Overall, at Columbiana, Mo., September 18.

SAMPY DAVIS HATFIELD, M.D., Avondale, W. Va., to Miss Ethyl Younglove of Walton, Ind., September 25.

JOHN WALTER FULWILER, M.D., to Miss Alice McClun Martin, both of Bloomington, Ill., September 21.

CHARLES PATTON CLARK, M.D., Chicago, to Miss Bessie Burnette of Oconto, Wis., at Chicago, September 18.

JAMES A. MOREHOUSE, M.D., Idaho Springs, Colo., to Miss Daisy Stamney of Champaign, Ill., September 18.

WILLIAM NELSON MEBANE, M.D., Greenboro, N. C., to Miss Pamelia Child, at Washington, D. C., September 21.

JOHN ALBERTUS REED, M.D., Jellaway, Ohio, to Miss Hallie Gladys Zimmerman of Columbus, Ohio, September 19.

ELISHA LEAVENWORTH MCGILL, M.D., Petersburg, Va., to Miss Helen McGill Page of Berryville, Va., October 2.

CHARLES WILLIAM GERBER, M.D., Las Cruces, N. M., to Miss Geraldine Clark Combs of Linneus, Mo., September 11.

JAMES T. DUHIGG, M.D., assistant surgeon, U. S. Navy, Washington, D. C., to Mrs. Marie Frances Carroll, recently.

ARCHIBALD LOUIS MILLER, M.D., Washington, D. C., to Miss Elsie Myalma Watkins of Tacoma Park, D. C., September 18.

Deaths

Joel Wilbur Hyde, M.D. Yale Medical School, New Haven, Conn., 1861; a member of the medical societies of the State of New York and County of Kings; a line officer and later surgeon of the Twenty-ninth Connecticut Volunteer Infantry during the Civil War and in charge of the brigade hospital at Point Lookout, Md.; since 1881 consulting gynecologist to Long Island College Hospital and for many years secretary of the council; since 1883 chief of the obstetrical department of St. Mary's Hospital, and consulting surgeon in Bushwick Hospital; a member of the Associated Physicians of Long Island, the American Association of Obstetricians and Gynecologists, and the Brooklyn Pathological Society; a surgeon on the staff of the second brigade, N. G. N. Y., from 1881 to 1887; died at his home in Brooklyn, September 22, from kidney disease, after a prolonged illness, aged 68.

Frederick von Liew Brokaw, M.D. Washington University Medical Department, St. Louis, 1857; for nearly half a century a practitioner of St. Louis; superintendent of the Marine Hospital for two years, then resident physician at the Quarantine Hospital and later superintendent of the St. Louis City Hospital; died at the home of his daughter-in-law in that city, September 20, from heart disease, aged 73.

John P. Hampton (Examination, Madison County, Ala.) 1878; a captain in the Confederate service during the Civil War; a member of the Medical Society of the State of Alabama, and for several terms president of the Madison County Medical Society; for several years representative in the state legislature, died at his home in Meridianville, June 8, after an illness of several weeks, aged 82.

William Knisely Mitchell, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1879; a member of the Indiana State and Noble County medical societies; twice coroner of Noble County and several times a member of the city council, died at his home in Ligonier, September 15, from nephritis, after an illness of several years, aged 56.

Hans M. Beck, M.D. Rush Medical College, Chicago, 1883; a member of the American Medical Association; for 25 years district surgeon of the Milwaukee and Northern Road, and for a number of years a member of the United States Board of Pension Examiners, died at his home in Green Bay, Wis., September 21, from cancer of the stomach, aged 52.

Peter Manuel Wise, M.D. University of Buffalo (N. Y.) Medical Department, 1872; formerly an official in various insane hospitals and formerly professor of psychiatry in the University of Vermont; died in New York City, September 22, from an overdose of a sedative, taken to relieve the pain of locomotor ataxia, aged 56.

Edward Fowler, M.D. University of Maryland School of Medicine, Baltimore, 1858; for two terms a member of the State Board of Health, and a founder and director of the Peninsular General Hospital, Salisbury, Md., died at his home in Laurel, Del., September 19, after an illness of several months, aged 89.

Alvin G. Snyder, M.D. Kentucky School of Medicine, Louisville, 1892; of Toledo, Ohio, who was injured in the Lake Shore Electric wreck a few days before, sustaining fractures of three ribs, a fracture of the clavicle and a rupture of the liver, died at St. Vincent's Hospital, Toledo, September 21, aged 41.

Thaddeus S. Collins, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1898; a member of the Iowa State and Cerro Gordo County medical societies; died at his home in Burchinal, Iowa, September 18, from valvular heart disease, after a prolonged illness, aged 28.

E. W. Flowers, M.D. Hospital College of Medicine, Louisville, 1898; a member of the American Medical Association; a prominent practitioner of McComb, Miss., and president of the school board, died in New Orleans, September 16, after an operation for appendicitis, aged 40.

James Hamilton Browning, M.D. University of Virginia, Department of Medicine, Charlottesville, 1891; a member of the American Medical Association; president of the Martha Jefferson Sanatorium, died at his home in Charlottesville, from appendicitis, September 27, aged 31.

Martin L. Horn, M.D. University Medical College, Kansas City, Mo., 1886; formerly assistant superintendent of public instruction of Indian Territory and later a resident of Wenatchee, Wash., died in a hospital at Medical Lake, Wash., September 10, aged 52.

Paul E. Grandbois, M.D. Laval University, Medical Department, Quebec, 1869; formerly a member of parliament for Temiscouata and a practitioner of Fraserville, Que., died at the Hôtel Dieu, Quebec, September 18, after an operation for peritonitis, aged 61.

William J. Sneed, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1878; a Confederate veteran and at one time professor of anatomy in his alma mater, died at his home in Nashville, Tenn., March 17, from cerebral hemorrhage, aged 72.

Matthew George Lesh, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1870; died at his home in East Stroudsburg, Pa., September 15, from septicemia, following a furuncle of the face, after an illness of four weeks, aged 56.

Alexander Stuart McLennan, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1873; a resident of Chicago for fifty years; died at his home, September 23, after a short illness, aged 72.

Richard Schorse, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1902; a promising young practitioner of Milwaukee, died at his home in that city, September 19, from pneumonia, after an illness of ten days, aged 29.

Charles John Lendemann, M.D. Hospital College of Medicine, Louisville, Ky., 1904; a member of the Kentucky State and Henry County medical societies, died at his home in Franklinton, Ky., September 5, from typhoid fever, aged 25.

Peyton Randolph Henderson, M.D. University of Louisville Medical Department, 1872; died at his home in Louisville, September 25, from the effects of a gunshot wound, believed to have been self-inflicted with suicidal intent.

Alfred Rice, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1880; twice coroner of Bartholomew County, Ind.; died at his home in Columbus, Ind., September 22, after an illness of several months, aged 51.

Lawrence H. Shaw, M.D. State College of Physicians and Surgeons, Indianapolis, 1907; of Irvington, Indianapolis, died at his home in that place, September 16, from typhoid fever, after an illness of a month, aged 26.

George Newby, M.R.C.S., London, 1846; formerly a practitioner of New York City, and for several years a director of the Metropolitan Art Museum, died at Sanford Hall, Flushing, L. I., September 19, aged 87.

Jerome Younkin (Examination, Ind.) 1897; a member of the Indiana State and La Grange County medical societies, died suddenly from heart disease, at his home in Wolcottville, Ind., September 20, aged 73.

Littleberry R. Rose, M.D. New York City, 1856; a Confederate veteran, died at his home in Mount Pleasant, N. C., where he had lived for 50 years, September 7, from paralysis, after a long illness, aged 78.

Joel H. Roach (Years of Practice, Ky.) 1893; a veteran of the Civil War; for more than 50 years a practitioner of Kentucky; died at his home in Fordsville, September 16, after a brief illness.

Zenas C. Kelso, M.D. Cincinnati College of Medicine and Surgery, 1871; of Nevada, Mo.; died at St. Luke's Hospital, Kansas City, Mo., from cancer of the stomach, September 18, aged 59.

James M. Crismore, M.D. Eclectic Medical Institute, Cincinnati, 1881; died at his home in Helena, Ohio, September 22, from cerebral hemorrhage, after an illness of six months, aged 63.

Rebecca J. Ayres, M.D. New York Medical College and Hospital for Women, 1894; physician to the Memorial Hospital, died at her home in Brooklyn, from cancer, September 28, aged 56.

Mortimer William Handley (Examination, Ill.) 1899; died at his home in Chicago, July 24, from spleno-myelogenous leukemia, after an illness of three years and a half, aged 35.

Henry Horace Hegerty, M.D. Chicago Homeopathic Medical College, 1901; died at his home in Dundee, Ill., September 15, from uremia, after an illness of two weeks, aged 45.

John L. Kegley (Examination, Indiana, 1897); a practitioner of Stone's Crossing, Ind., for forty years, died at his home in that place from tuberculosis, September 15.

William S. Strudwick, M.D. Jefferson Medical College, Philadelphia, 1853; a typical old-time practitioner of North Carolina, died at his home in Hillsboro, July 9, aged 77.

Joseph F. Stillman, M.D. College of Medicine, Syracuse, (N. Y.) University, 1855; died at his home in Walworth, Wis., September 17, from cerebral hemorrhage, aged 75.

J. B. McClain, M.D. Starling Medical College, Columbus, Ohio, 1854; died at his home in Sardinia, Ohio, September 18, from heart disease, after a short illness, aged 77.

Robert J. Young, M.D. Hospital College of Medicine, Louisville, Ky., 1886; died at his home in Abbeville, La., September 1, after an illness of four months, aged 41.

S. W. Adkins, M.D. Louisville (Ky.) Medical College, 1897; of Mount Vernon, Ky., was shot by C. C. Williams, at Mount Vernon, September 20, and died two days later.

E. B. Hooe (Years of Practice, Texas) 1885; a Confederate veteran; died at his home in Rosanky, Texas, September 14, after an illness of about two years, aged 62.

Hiram D. Parrish (Examination, Ind.) 1897; an old resident of Clymers, Ind., died suddenly at his home in that place, July 13, from heart disease, aged 65.

John H. Swasey, M.D. College of Physicians and Surgeons in the City of New York, 1875; of New York City, died in Portland, Maine, September 12,

George Gordon Byron Wilson, M.D. Dartmouth Medical School, Hanover, N. H., 1898; died at his home in Lowell, Mass., September 16, aged 33.

Franklin Clark Pierce (License, Conn.) 1893; a veteran of the Civil War, died at his home in Willimantic, Conn., September 1, from dropsy, aged 70.

Benjamin F. Satterfield, M.D. Jefferson Medical College, Philadelphia, 1861; died at his home in Kansas City, Mo., September 9, aged 79.

J. E. Shipp, M.D. Louisville (Ky.) Medical College, 1846; died at his home in Buffalo, Tenn., September 20, after a brief illness, aged 83.

Stillwell G. Merrill, M.D. Homeopathic Medical College of Missouri, St. Louis, 1867, died at his home in Collinsville, Ill., September 8.

Eleanor MacAllister, M.D. College of Medicine, Syracuse (N. Y.) University, 1889; died recently at the State Hospital, Napa, Cal.

Henry Learned, M.D. Eclectic Medical Institute, Cincinnati, 1850, of Pomona, Fla., died in Jacksonville, Fla., August 28, aged 82.

John W. Green (Examination, Ind.) 1897, died at his home in Uniontown, Ind., recently.

Deaths Abroad.

Timothy Holmes, M.A.; M.C., Cantab; F.R.C.S., Eng.; an eminent surgeon, and a writer on and teacher of surgery, died at his home in London, Eng., September 8, aged 82. He pursued his medical studies at St. George's Hospital and was made a member and fellow of the Royal College of Surgeons in 1853. He was made demonstrator of anatomy, registrar and assistant surgeon at St. George's Hospital, becoming full surgeon in 1868, consulting surgeon in 1887, joint treasurer in 1894, and vice-president in 1904. He held many positions in the Pathological Society, the Clinical Society, and other scientific societies, and was president of the Royal Medical and Chirurgical Society in 1900. He was for many years a member of the British Medical Association and vice-president of the Section of Surgery in 1870, and orator in surgery in 1880. As a surgeon and teacher Mr. Holmes attained one of the highest positions of the age. He was an erudite student, a bold and fertile operator, and a clear, forcible and at times sarcastic critic. His impress on surgical literature was great. In 1860 appeared his "System of Surgery," which he edited, and to which all the greatest authorities of the day contributed. This, for many years, was the standard text-book on British surgery. To this book he contributed many most important articles, chief among which were those on accidents from burns and lightning, aneurism, diseases of the bone, excision of bones and joints and surgical diseases of children. Mr. Holmes had been in failing health for many years and his death was not unexpected.

A. F. Llobet, M.D., professor of surgery at Buenos Ayres, founder of the Rawson Hospital and a frequent contributor to the medical press, died August 12, aged 46.

S. Gache, M.D., professor of obstetrics at Buenos Ayres, and one of the editors of the *Semana Medica*, died at Buenos Ayres August 13.

Book Notices

MODERN MEDICINE. ITS THEORY AND PRACTICE. In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal. Assisted by Thomas McCrea, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of about 1,000 pages each; illustrated. Volume II. Price per volume, cloth, $6.00 net. Lea Brothers & Co., Philadelphia, 1907.

As pointed out in the notice of the first volume a detailed review of the individual articles in "Modern Medicine" really is beyond the capacity of any single individual. In glancing over the list of contributors to Volume II one is again impressed with the general standing of the individual writers and with the fact that in nearly every case the author has done creditable, in two or three instances even especial, investigative work in the particular field covered by his article. The introduction, which is contributed by Hektoen, deals with infections. Typhoid, typhus and relapsing fever are next considered by McCrea, followed by articles on smallpox and chickenpox by Councilman. Dock, Lord and Coleman write on vaccination, influenza and dengue, respectively. Scarlet fever and diphtheria are covered by McCallom, while measles, rubella, fourth disease, erythema infectiosum, whooping-cough and mumps are considered by Ruhräh. Koplik writes on meningitis, Musser and Norris on pneumonia, and Anders on erysipelas. Toxemia, pyemia and septicemia are discussed by Pearce, rheumatism by Poynton, and cholera by Dunbar. Carroll considers yellow fever; Shiga, bacillary dysentery, and Calvert, plague. Careful editorial co-ordination is evident and there is no unnecessary overlapping on part of the introduction and the other articles. Many of these articles are truly monographic and exhaustive; others, like those on yellow fever, Asiatic cholera, plague, bacillary dysentery, are more condensed. Naturally there is considerable variation in the quality of the different articles, but taking it all in all there is little criticism in this regard. There is at this moment probably no other place where the physician will find so exhaustive and authoritative statements of the present status of our knowledge of all the various phases of the diseases mentioned as in this volume. It is regrettable that more references to original sources are not given. In practically every chapter definite statements are accredited to authors, but in the majority of the cases no references are given. The student is thus deprived of the means of verification of statements and of direction to valuable original investigations. We consider this omission a serious shortcoming. The editors appear to have been without any definite convictions in regard to references because some articles are provided with scattered references while others have none at all—certainly a peculiar lapse from the highest standards of scholarship.

ARBEITEN AUS DEM PHARMAZEUTISCHEN INSTITUT der Universität. Berlin. Herausgegeben von Dr. H. Thoms, Professor und Direktor des Pharmazeutischen Institutes der Universität, Berlin. Cloth. Pp. 340. Berlin: Urban & Schwarzenberg, 1907.

The collected investigations of the Pharmaceutical Institute of Berlin University having been published in three volumes, it has been deemed advisable to issue a yearly supplement containing the results of the work done during the year. The volume for 1906 is before us. It contains an account of some of the most important work which the pharmaceutical chemist can perform for the professions of medicine and pharmacy. The work is not confined to exposing frauds and false claims, but is of service by establishing through disinterested investigations the standards for the new synthetics which are destined sometime to find their way into the pharmacopeias. With this in view the report on the more important chemicals ends with a description suggested for insertion in future editions of the pharmacopeia. The volume opens with a short account of the new remedies introduced during the year, including a number which were not investigated by the institute. Then follows an account of the investigations of various new remedies and nostrums, several of which are shown not to be in accord with the claims made for them. The third section is given to studies in the constitution of organic chemicals, and the fourth to chemico-pharmacognostic investigations. The

last section includes a fifty-page monograph on poppy culture and the manufacture of opium in Germany by H. Thoms. Chemico-physiologic investigations, pharmaceutical preparations and new apparatus are also described. Altogether the book constitutes a substantial addition to pharmaceutical literature and should serve as a stimulus to similar investigations in this country.

TEXT-BOOK OF PHYSIOLOGY for Medical Students and Physicians by William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Second Edition, Thoroughly Revised. Cloth. Pp. 939. Price, $4.00 net. Philadelphia and London: W. B. Saunders Co., 1907.

The second edition of Howell's physiology carries out the principle enunciated in the preface of the first edition, viz., to furnish the student with such a selection of facts as shall enable him to form an intelligent idea of the state of knowledge without referring to all of the conflicting statements found in physiologic literature, the force of which can only be properly appreciated by the specialist. The author has assumed the responsibility of sifting the evidence and emphasizing those conclusions that seem to be most justified by experiment and observation. Some questions are discussed on which opinion is not finally settled, but in these cases the evidence on both sides is summed up in a way which affords the student an opportunity to form an opinion while he is impressed with the fact that the theories of physiology are open to modification by further investigation. In the present edition such changes have been made as are necessitated by increasing knowledge and so far as possible the space for these additions has been obtained by eliminating older material which could be spared. The book is well adapted, not only for the student, but as a means for the physician to review his knowledge of the subject, and he will find in its pages some valuable hints which he can apply in his practice.

PHYSIOLOGY OF ALIMENTATION. By Dr. Martin H. Fischer, Professor of Pathology in the Oakland College of Medicine. First Edition. Cloth. Price, $2.00 net. Pp. 348. New York: John Wiley & Sons, London: Chapman & Hall, 1907.

The great value of the recent physiologic researches on the digestive processes render a comprehensive presentation of these newly acquired facts very acceptable to the practicing physician in whose work they find numerous important applications. From his acquaintance with physical chemistry Dr. Fischer has naturally emphasized the explanations of physiologic processes on a physical basis wherever possible, but he is ever ready to admit that the known physical laws are at present insufficient to explain many of the phenomena taking place in the digestive tract. The book presents the experimental results of Cannon, Starling, Pawlow and others, and gives a very comprehensive survey of the mechanics, chemistry and bacteriology of digestion and absorption. The reversibility of the action of enzymes is fully illustrated and used in the explanation of the occurrence of fat in the lacteals after the absorption of soaps as well as to give a reason why enzymic action is always incomplete unless the products are removed the original substance being reformed by the reversed. We note the occasional use of scientific terms in a way that may be misleading to those imperfectly versed in chemistry. For instance, the author speaks without other explanation of the decomposition of fats into alcohol and fatty acids. This expression might puzzle some readers who are not aware that glycerin is now regarded as an alcohol. We trust such statements may be modified in future editions.

PRACTICE OF OBSTETRICS. By American Authors. Edited by Charles Jewett, M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital, New York. Third Edition. Revised and Enlarged. Illustrated. Cloth. Pp. 820. Price, $5.00 net. New York and Philadelphia: Lea Bros. & Co., 1907.

Since the last edition was published, in 1901, this work has been revised and many chapters entirely rewritten. Among these are the chapters on changes in the maternal organism due to pregnancy, the duration of pregnancy, hygiene and management of pregnancy, anomalies and diseases of the fetal appendages, diseases of pregnancy, and malformations, injuries and diseases of the new-born child. Part VIII, dealing with obstetric surgery, has been brought up to date and a chapter has been devoted to pubiotomy. This operation, it is stated, has the same limitations as symphysiotomy and many of its drawbacks. The advantages are that it is easier of performance, there is less hemorrhage, and there is less liability of opening the vagina as the incision is to one side of the vulva and asepsis is more complete. There is also a brief account of vaginal Cesarean section. The illustrations, many of which are new, are excellent.

MATERIA MEDICA, THERAPEUTICS, PHARMACOLOGY AND PHARMACOGNOSY, Including Medical Pharmacy, Prescription Writing and Medical Latin. A Manual for Students and Practitioners. By William Schleif, Ph.G., M.D., Demonstrator of Medical Pharmacy in the Medical Department of the University of Pennsylvania. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicans and Surgeons, New York. Third Edition, Revised and Enlarged. Cloth. Pp. 470. Price, $2.50 net. Philadelphia: Lea Bros. & Co., 1907.

Although called a "pocket text-book," this neat volume would stretch the majority of pockets, and contains the essentials of the subject. It is conveniently arranged and has been revised to accord with the last Pharmacopeia.

LESSONS ON MASSAGE, by Margaret D. Palmer, Formerly Masseuse and Manager of the Massage Department of the London Hospital. Third Edition. Cloth. Pp. 272. Price, $2.50 net. New York: William Wood & Co., 1907.

About one-half of this excellent treatise describes the anatomy and physiology of the body, the remainder details the procedures for massage of the muscles and organs and outlines the methods of application to various diseases. It is abundantly illustrated and is evidently the result of much experience. It is written for nurses and those who make a business of massage, but physicians also will appreciate it.

Society Proceedings

COMING MEETINGS.

Delaware State Medical Society, Wilmington, Oct. 8.
Nevada State Medical Society, Reno, Oct. 8-9.
Mississippi Valley Medical Association, Columbus, O., Oct. 8-10.
Medical Assn. of the Southwest, Hot Springs, Ark., Oct. 8-10.
Vermont State Medical Society, St. Johnsbury, Oct. 10-11.
Kentucky State Medical Association, Louisville, Oct. 15-17.
Assn. of Military Surgeons of the U. S., Norfolk, Va., Oct. 15-18.
American Association of Railway Surgeons, Chicago, Oct. 16-18.
Medical Society of Virginia, Chase City, Nov. 5-8.
Southern Surgical and Gyn. Assn., New Orleans, Nov. 12-14.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Twentieth Annual Meeting, held at Detroit, Sept. 17-19, 1907.

(*Concluded from page 1136.*)

Date of Next Meeting Changed.

After the session closed, the date of the next meeting was decided by the executive council to be Sept. 22-24, 1908, instead of Sept. 15-17, as announced in THE JOURNAL last week.

Etiology of Gallstone Disease.

DR. HUGO O. PANTZER, Indianapolis, said that recent developments have shown that the gall bladder is second only to the appendix among the abdominal organs in its disposition to take on disease. Like the appendix, the gall bladder is found to be a catch-pool of disease germs, which display their activity under signs which for a long time were unrecognized or incorrectly interpreted. The view of Kehr, that an infection very often supervenes on pre-existing gallstones, is supported by clinical and pathological observations and reasoning. Opinions vary materially as to what size of stones can be passed by the cystic or common duct. Large stones that have been passed by the bowel or vomited have left the gall-bladder through unnatural openings; yet there is unmistakable evidence of comparatively large stones having passed through the natural channels. Temperature should be regularly taken in all cases of gallstone colic. Its presence in a case of gallstone colic may be the first definite sign of a grave disease. The persistent absence of fever commonly indicates a non-dangerous condition, and when associated with concurrent conditions may warrant persistence in non-surgical measures.

DISCUSSION.

DR. JOHN A. LYONS, Chicago, related the case of a physician whom he saw about four months ago. Blood tests were

made to determine whether the case was one of cholecystitis or appendicitis. The pain radiated from the right to the left hypochondriac region. It was decided that the case was one of cholecystitis; a noted surgeon concurred in the diagnosis, and operated. Operation, however, disclosed multiple carcinoma of the liver. This case he reported to show that it is difficult for even eminent practitioners to differentiate between gall-bladder diseases and appendicitis in some cases.

DR. JAMES F. W. ROSS, Toronto, reported five cases of gangrene of the gall bladder. Whenever this condition is diagnosed, it requires immediate operation, just as a case of gangrene of the appendix does. In one case no gallstones were present.

DR. JAMES F. BALDWIN, Columbus, Ohio, has had a number of cases of gangrene of the gall bladder. He attaches considerable importance to one symptom, namely, irregularity of the pulse. The last patient on whom he operated had no elevation of temperature apparently or acceleration of pulse, but very severe pain. The patient gave a history, dating back one year, of attacks of pain, and a Cincinnati physician who saw the patient in one of these attacks thought it was clearly the appendix that was at fault. The patient was in a desperate condition, so that an immediate operation was indicated. Dr. Baldwin operated, going high up, as he thought there was more tenderness over the gall bladder than over the appendix. This proved to be the case. The gall bladder was gangrenous, it had ruptured, and contained fifty gallstones. The patient made an excellent recovery.

DR. JOSEPH PRICE, Philadelphia, said that gallstone disease is very common. In insane asylums it is found at autopsy that fully 30 or 40 per cent. of the inmates have gallstones, even without the manifestation of symptoms during life. He does not think that gallstone colic is a common symptom.

DR. WILLIAM H. HUMISTON, Cleveland, Ohio, referred to the frequency of gallstones without symptoms. In a Vienna hospital, with thirty-five hundred beds, gallstones are found quite frequently, and, although in many of these cases there were no symptoms of gallstones, yet gallstones were found at autopsy. He has found that a rigid right rectus is an indication of gall bladder disease.

DR. CHARLES L. BONIFIELD, Cincinnati, said there is a decided difference between a pain due to an acutely inflamed and distended gall bladder, and one that is due to true gallstone colic. Gallstone colic is always due, in his opinion, to a contraction of the gall bladder. He believes that almost every patient who has gallstones is liable to develop symptoms. The presence of gallstones predisposes to infection of the gall bladder.

DR. PANTZER said the frequency of gallstones bears no relation to the frequency of gall bladder disease. The possibility of cholecystitis gangrenosa is to be entertained in every case presenting symptoms of grave inflammatory disease.

Tuberculosis of the Kidney with a Report of Cases.

DR. RUFUS B. HALL, Cincinnati, said it is generally believed that renal tuberculosis is a local affection limited to one kidney in the vast majority of cases. As to the method of infection we must consider the circulation, the lymphatics, and extension from the bladder as well as direct communication from the tuberculous focus situated near or outside the genitourinary tract. The kidney is often affected without either the ureter or bladder being involved. If the disease is far advanced in the kidney, the ureter rarely escapes infection. If a diagnosis can be made early and the abscess of the kidney drained, many of the patients can be cured without the sacrifice of the kidney. Tubercular disease of the kidney is frequently a cause of irritable bladder.

DISCUSSION.

DR. EDWARD J. ILL, Newark, N. J., reported the case of a girl who had tuberculosis of the left kidney and ureter. The patient was seen in the days before operations were undertaken for the relief of this condition, and while she did not undergo an operation at that time, she is perfectly well to-day. No tubercle bacilli can be found in the urine. Another patient, seen twelve years ago, is perfectly well to-day. He did not cite these cases for the purpose of saying that the patients should not be operated on, but rather the reverse. In the last five or six years he has operated in six such cases, removing both the kidney and ureter. All of these patients are alive except two. One died of sepsis at the time of the operation, while the other died of lung trouble which was not recognized previously.

DR. O. H. ELBRECHT, St. Louis, cited two cases he has had of tuberculosis of the kidney. In one he drained, in the other he did not. One patient died from miliary tuberculosis eight weeks after the operation. In this case the kidney was large, full of pus, and was drained. The kidney could not have been removed without the pus coming in contact with the wound. In the other case the abscesses were small; nephrectomy was done without puncturing the various abscesses to find out what they were and to protect the wound with gauze. He also removed the ureter in this case, closed the wound, the patient recovered from the operation, but later died of miliary tuberculosis.

DR. JOSEPH PRICE said that when a kidney is honeycombed with tubercular disease, it is perfect folly to attempt drainage. Such a kidney should be removed. Undoubtedly there are many cases in which surgeons have really anchored so-called floating kidneys which were pathologic. Cases were cited in point.

DR. JAMES F. W. ROSS said it is unpleasant to do a nephrotomy in these cases, and then find out afterward that one has to do a nephrectomy. It is not easy to determine whether a nephrotomy should be done or a nephrectomy primarily. It is stated that tuberculosis of the kidney is generally bilateral, but in his experience this is not so.

DR. JAMES F. BALDWIN, Columbus, Ohio, emphasized the point that nocturnal frequency of urination is not only equal to the frequency of urination during the day, but is increased. He has noticed this in so many cases that he attaches a great deal of importance to it. He has practiced nephrotomy in three desperate cases, believing that nephrectomy would have turned the tide in these, and the patients would have died.

DR. HALL said that if there are many abscesses, with several pockets, he invariably takes the tuberculous kidney out. In a few cases, however, the condition of the patient has been so desperate that he has simply drained for the time being, but has had to remove the kidney in these cases months afterward.

Treatment of Puerperal Sapremia and Puerperal Sepsis.

DR. JOHN E. CANNADAY, Hansford, W. Va., outlined the present status of treatment of these conditions. The treatment of the former has been definitely settled. The treatment of puerperal sepsis, however, is undecided, unsettled and unsatisfactory. Several of the more radical men practice hysterectomy, but there is danger of a deadly staphylococcus infection, external to the uterus. Dr. Cannaday advocates vaginal and uterine douches of physiologic salt solution, supplemented by drainage, whenever there are any evidences of infiltration or abscess posterior to the uterus, in the broad ligaments or tubes. Saline transfusions, frequently administered, nutritious diet and other general supportive measures should be resorted to.

End Results in Operations for Prolapsed Uterus.

DR. JOHN W. KEEFE, Providence, R. I., expresses the conviction that hysterectomy for prolapsus should be practiced in only rare instances, as it is an operation that is attended with a high mortality. The author tabulated forty-eight cases of patients that have been operated on for prolapsed uterus of varying degree. He has been able to trace after operation 23 cases out of the 48. Of these he has found 18, or 77 per cent., with the uterus in good position and cured of their previous symptoms. Seven women have borne children since operation, and one was pregnant at the time of examination. The labor in every case has been normal, and has not caused a return of the prolapsus except in one case.

Phlebitis Following Abdominal Operations.

DR. ORANGE G. PFAFF, Indianapolis, Ind., presented the following conclusions on this subject: 1. Many of these cases are simply extensive aseptic blood clots, without any true in-

flammation. 2 There must be present an abnormal plasticity of the blood in order that thrombosis may be the result of surgical traumatism. 3. The clot generally receives a mild form of infection introduced into the wound at the time of the operation, and in turn an invasion of the vein wall results. 4. As stagnation is such an important element in the etiology, getting patients up earlier undoubtedly reduces the liability to thrombosis. 5. The blood ought to be tested by some recognized standard in every case, and if found in a dangerous state, operation should be postponed until medication shall have brought it back to a normal condition.

DISCUSSION.

DR. HERMAN E. HAYD, Buffalo, N. Y., said he had a woman patient with a postoperative phlebitis. He operated on her four weeks previously for a simple recurrent attack of appendicitis. The wound healed kindly, without any evidence of irritation or pus. He is unable to account for the phlebitis in this case. He cited it to show that after a trivial operation, under the most careful precautions, phlebitis is likely to follow.

DR. JOSEPH PRICE, Philadelphia, said that whenever much acrobatic surgery is done, phlebitis will follow. He has noticed that in certain institutions where undue prominence is given to binders, to the use of crutches and retractors, phlebitis follows the operations.

DR. JAMES F. BALDWIN asked if the members have seen phlebitis in cases of appendicitis in which no operation has been done.

DR. ROBERT T. MORRIS, New York City, replied that he has seen it in cases that have not been infected.

DR. JOHN W. KEEFE, Providence, R. I., cited a case of hernia in a woman for whom he did a Bassini operation. The operation was clean; it was done in fifteen minutes, but a left-sided phlebitis occurred, and within two weeks a right-sided phlebitis followed. At no time was there any suppuration or redness about the hernial wound.

DR. EDWARD J. ILL, Newark, N. J., said that for a number of years he had had no cases of phlebitis, and then there came eight cases in succession. These patients were operated on both in hospitals and in private practice. He believes it is a septic condition, for he has seen it follow as long as five weeks after a simple appendectomy.

DR. HUGO O. PANTZER, Indianapolis, Ind., said that most cases of phlebitis are aggravated as soon as patients get up from operations. In some instances postoperative phlebitis does not develop until the patient begins to sit up.

Formation of an Artificial Vagina by Intestinal Transplantation.

DR. JAMES F. BALDWIN, Columbus, described a new method for making an artificial vagina, and reported a case. The operation consisted in making the usual opening between the rectum and bladder, and then lining this with a loop of intestine taken from the sigmoid flexure of the colon, or from the lower end of the ileum, as seemed preferable. Continuity of the bowel is restored by an anastomosis, and the cervix, if the uterus is to be saved, attached to the bowel, so that menstruation will take place through the artificial channel. In the case which he reported the operation was in every way successful, in that a capacious vagina lined with mucous membrane resulted, with no tendency to cicatricial contraction.

Painful Menstruation in Young Unmarried Women.

DR. W. A. B. SELLMAN, Baltimore, discussed the causes of this condition, and pointed out that the cervices of these patients should be dilated or slit, a currettement made, or something else done to end their pain.

DISCUSSION.

DR. BERTHA VAN HOOSEN, Chicago, said that one of the most potent causes of painful menstruation is a diseased appendix, which makes itself known only at the time of the menstrual period. During the past two years she has recognized more and more the importance of making a thorough examination of the appendix, and since she has done this she has had almost no case of dysmenorrhea that she has not been able to relieve.

DR. JOSEPH PRICE, Philadelphia, said the prominence given to menstrual disturbances is too great. He believes that early matrimony is the best treatment for all varieties of dysmenorrhea, except in those cases in which pathologic conditions exist.

DR. J. HENRY CARSTENS, Detroit, said that many of these women, after they married and bore children, have no further disturbances of menstruation.

DR. HUGO O. PANTZER, Indianapolis, emphasizes the importance of the hygienic treatment of these cases. When young girls with dysmenorrhea are sent to the mountains for a short sojourn, thus changing their manner of living, it does them lots of good, in that they rid themselves of dysmenorrhea for months, but in some cases when they return to a life that is faulty, the dysmenorrhea returns.

DR. SELLMAN said he fails to see any connection between appendicitis and painful menstruation. He does not think appendicitis is a cause of dysmenorrhea.

The Menstrual Function: Its Influence on Chronic Inflammatory Conditions of the Appendix.

DR. FRANCIS REDER, St. Louis, said that after a painstaking consideration of the cases coming under his observation, only in the severest forms of adnexal disease can the inflammatory condition be said to communicate itself to the appendix and cause a primary acute disease. It is in the chronic form of appendicitis that pelvic hyperemia can arouse the dormancy of a smouldering appendix and provoke the clinical manifestations of an acute attack. In the case seen by the author where a diagnosis of appendicitis was made, there were important disclosure from a vaginal examination. He reported several cases to support his contentions.

Lithopedion.

DR. HERMAN E. HAYD, Buffalo, N. Y., reported a case of lithopedion of 32 years' standing, which was successfully removed from a woman, 68 years old. He exhibited the specimen. He spoke of the rarity of the condition, referred to the age of the specimen, and its excellent preservation. The arms, legs, fingers, nails, hair, ears, and external genitals were all clearly shown. The specimen caused no symptoms for nearly thirty-two years. He referred to the possible changes that may take place in extrauterine pregnancy, such as suppuration, maceration, mummification, and calcification.

DR. O. H. ELBRECHT, St. Louis, reported a case of tubal abortion, in which there was complete detachment of the fetus, from the placenta at six months, resulting in omental attachment and beginning lithopedion.

Premature Interruption of Pregnancy.

DR. JOHN A. LYONS, Chicago, said that criminal abortion is constantly increasing, and physicians should assume the unpleasant duty of seeing that abortionists are prosecuted more vigorously, even if changes in the statutes are necessary. In the active treatment of incomplete abortion there is strong and intelligent opposition to the use of the sharp curette. Personally, he follows the practice of von Winckel, who interferes when the temperature begins to indicate sepsis.

Surgical Treatment of Typhoid Perforations.

DR. JOSEPH PRICE, Philadelphia, said that nearly all the perforations of the bowel were within about the first twelve inches of the ileum. Typhoid and other perforations are always followed by peritonitis, local or general. The possibility of its remaining local or circumscribed by adhesions should not be considered if the diagnosis of perforation has been made. In more than 75 per cent. of the cases recorded general septic peritonitis has been found, with escaping bowel contents, gas and feces, foul pus, and free exudate in considerable quantity. Generally the perforations are easily and quickly found near the ileocecal valve; they are rarely multiple or ragged, and whether of large or small caliber, fine pure silk is the safest material with which to close them. A resection of the bowel is an unjustifiable and dangerous procedure. Successful operations on typhoid patients have been done in the midst of low, alarming abdominal conditions, general incontinence, muttering delirium, and subsultus.

When Shall We Perform Myomectomy and When Hysterectomy in Uterine Fibromyomata?

Dr. James N. West, New York City, said that in 31 abdominal myomectomies which he has performed, there have been two deaths, and four of the patients have become pregnant. Taking an equal number of consecutive cases of fibroids treated by hysterectomy, he finds that there have been no deaths. He has done forty consecutive hysterectomies in three years, with no deaths.

Temporary Uretero-Vaginal Fistula After Panhysterectomy for Fibroid of the Uterus.

Dr. Ernst Jonas, St. Louis, said that panhysterectomy is preferable to supravaginal amputation as the radical operation for fibroid of the uterus. Empty contraction of the ureter is an important point in the differential diagnosis between a lateral opening and complete interruption of the continuity of the ureter in uretero-vaginal fistula.

Intra-Abdominal Torsion of the Great Omentum Without Hernia.

Dr. Roland E. Skeel, Cleveland, Ohio, said that torsion of the omentum is best classified clinically under three simple heads: 1. Torsion dependent directly on hernia. 2. Torsion in which hernia exists, but the dependence is not clear. 3. Pure intra-abdominal torsion. Four different causes have been advanced to explain the mechanism: (a) External force or pressure; (b) external or internal force acting in conjunction with adhesions on one side; (c) adhesions of the tip with peristalsis of the intestine starting the rotation; (d) circulatory disturbance in the omentum. The evidence proves that rotation is begun by one of the first three factors, and is carried on to strangulation by the fourth by reason of the overfull veins constantly tending to twist themselves about the shorter, less elastic arteries.

Deciduoma Malignum.

Dr. Miles F. Porter, Fort Wayne, Ind., reported the following case: Multipara, aged 40. Twin pregnancy about third month. Menses regular. Last menstruation ten days prior to operation. Last period normal except that it began with a gush of blood-stained water. Patient complained of pelvic distress, great weakness, and was very anemic. A tumor the size of a fist was situated in the hypogastrium, soft and tender. A week later the patient was examined again, symptoms became aggravated and tumor increased in size. Two days later a fragment was removed and pronounced malignant by a pathologist. Panhysterectomy was performed, followed by recovery. After operation the uterus was found abnormally large, its walls thick, friable, and soft. There were two gestation sacs, one of which was detached.

Conservative Medical Treatment of Salpingitis.

Dr. Edward J. Ill, Newark, N. J., made a plea for a non-operative treatment of salpingitis. He advises against medical treatment in cases of abscesses of the ovary, tuberculosis of the tubes, and other rare forms of inflammatory disease. He detailed two cases of gonorrheal infection with extensive pelvic exudates, in both of which the patients recovered and gave birth to children. The treatment of gonorrheal pelvic inflammation should be divided into three stages: (a) The treatment of the primary infection; (b) the treatment of the acute tubal and peritoneal inflammation; (c) the treatment of the sequelæ. He advises thorough swabbing of the vagina with a 5 per cent. solution of chlorid of zinc. This is usually necessary but once, rarely a second or third time. The vagina should then be filled with a five-yard strip of iodoform gauze, three inches wide, and allowed to remain three days. Large hot douches of potassium permanganate, 1 to 2000, are then ordered. Repeated applications should be avoided, as a rule, since they often prove harmful. Proper hygienic methods are urged. When the case has gone on to an acute salpingitis the recumbent posture should be insisted on. Pain and temperature demand an ice-bag above the pubes. This will insure much relief, and opiates can thus be avoided. Saline cathartics, proper diet, and freedom from all sexual excitement are ordered. When the acute stage is over, elastic pressure by oakum or jute tampon displaces the glycerin tamponade. As much pressure should be made as the patient will comfortably bear. Massage of the roof of the pelvis with rubber bags filled with mercury, and introduced into the vagina, is recommended. The treatment is not applicable to relapsing attacks of pelvic peritonitis.

Nymphomania as a Cause of Excessive Venery.

Dr. C. C. Frederick, Buffalo, N. Y., said that masturbation appears in three classes of women: First, those mentally and nervously normal, with purely local causes; second, those of neuropathic taint, hysterics and neurasthenics, in whom there is perversion of the sexual instinct; third, those who develop it as one of the symptoms and accompaniments of insanity. Judging from the histories of many cases which he has collected, nymphomania among mentally responsible and nervous women is relatively rare; the mentally irresponsible are more masturbators than they are given to excessive coitus, and the mentally responsible nymphomaniacs, as a rule, are addicted to excessive venery only when their sexual fall was early in life.

The following papers were also read: "Enucleation of Large Extramural Intraligamentary Uterine Myomata," by Dr. H. Howitt, Guelph, Ontario, Can.; "Fibroid Tumors Complicating Pregnancy," by Dr. E. Gustav Zinke, Cincinnati, O.; "Operations for Fibroid Tumors During Pregnancy," by Dr. J. Henry Carstens, Detroit; "Fibroid Tumor of the Uterus," by Edward J. Ill, Newark, N. J.; "Consistency in Aseptic Surgical Technic," by Dr. James E. Sadlier, Poughkeepsie, N. Y.; "Dermoid Tumor of the Ovary," by Dr. William H. Humiston, Cleveland, O.; "Echinococcus Cyst of the Liver," by Dr. Herman E. Hayd, Buffalo, N. Y., and "Nephrocolopexy," by Dr. Howard W. Longyear, Detroit.

INTERNATIONAL DERMATOLOGICAL CONGRESS.

Sixth Meeting, held in New York City, Sept. 9-14, 1907.

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Gangrena Cutis Hysterica.

Dr. H. P. Towle, Boston, read a paper which deals only with those cases of gangrene of the skin which are either of artificial or of so-called spontaneous origin. The paper gives the clinical histories of four cases of multiple gangrene of the skin, three in women and one in a man. While the cases varied somewhat from each other in minor details, they were alike in their essential features. They occurred in patients who were more or less markedly hysterical. Each patient had suffered some sort of trauma before the appearance of the first gangrenous lesion. It is believed the eruptions were all feigned, but the evidence remains purely circumstantial, as none of the patients would confess and nothing was ever discovered with which the lesions could have been produced.

TUESDAY, SEPTEMBER 10—AFTERNOON SESSION.

Vice-President, Dr. F. J. Shepherd, Montreal, in the Chair.

The Etiologic Relationship of Organisms Found in the Skin in Smallpox.

Prof. W. T. Councilman, Boston, says the cause of the disease is believed to be a parasitic organism having its habitat in the epithelial cells of the specific lesions of the skin. It was first recognized by Guanieri and named by him *Cytorrhyctes variolæ*. The same organism up to a certain period of development is found in vaccinia. Certain stages of development are peculiar to smallpox and only found in the lesions of this disease. It is believed that there are probably two cycles of development: 1. An imperfect cycle, which is common to both vaccinia and smallpox. 2. A complete cycle representing a further development of the vaccine cycle which is only found in smallpox. The virus of smallpox differs from that of vaccinia in its capacity of transmission without contact. Both vaccinia and smallpox lead to active hyperplasia of the lymphoid tissues with the production of large mononuclear cells which pass from the lymph nodes into the blood.

Cytorrhyctes Variolæ; the Organism of Smallpox.

PROF. GARY N. CALKINS, New York, stated that at present he would interpret the organism of smallpox as a rhizopod in which only one phase of the life history is known, viz., the asexual or vegetative phase. The intranuclear forms possibly belong to the sexual cycle, and it is not improbable that, as Councilman early suggested, the intranuclear forms may be a different cycle of the organism occurring in variola and not in vaccinia. He would interpret the vesicular forms as either poorly fixed organisms, or as degeneration forms of the organism, the degeneration being produced by the accumulation of toxins in the breaking down vesicles. His remarks were illustrated by lantern slides.

DISCUSSION.

DR. BRINKERHOF, Honolulu, says that only one form of smallpox can be produced in monkeys. If true variola could be produced in them, or the lower animals, they would not only learn more regarding the disease, but would also be able to undertake definite work on the therapy of the disease.

Opsonic Index in Skin Diseases.

DR. ARTHUR WHITFIELD, London, England, said that the diseases of the skin in which the method of Wright finds a place are the primary and secondary staphylococcic infections and tuberculosis. The following conclusions are offered: 1. The opsonic method in boils is always successful, and is the only form of treatment for general furunculosis that is in the slightest degree reliable. 2. In sycosis the method is a valuable one, but must be continued for long periods in proportion to the duration of the disease, and is best combined with *x*-ray epilation. 3. In acne the treatment is uncertain, some results being astonishingly brilliant, others entirely negative. 4. In septic dermatitis and ulcers the treatment is of distinct value as an auxiliary. 5. In Baxin's disease the treatment is somewhat uncertain. In tubercular ulceration it is of great value. 6. In lupus vulgaris the treatment alone is too slow and uncertain to be recommended.

Bacterial Inoculation in the Treatment of Suppurative and Tuberculous Diseases of the Skin, After the Method of Wright.

DR. E. M. VON EBERTS, Montreal, Canada, described the technic of opsonic determinations, vaccines and their preparation and dosages. In the treatment of true acne indurata he has yet to meet with a case in which marked improvement after the first inoculation was absent. In his experience, cases which do not yield promptly are those in which the initial index is not found to be greatly, if at all, depressed. The primary index has a definite bearing on the prognosis; where it is found to be low inoculation is almost invariably successful. Autogenous vaccines should always be prepared in cases of sycosis. Cases of impetigo yield so readily to local applications that little has been done in the way of immunization. In the majority of the cases of furunculosis, "stock" vaccines are permissible. In acute localized staphylococcic infections, bacterial inoculations yield the most brilliant results.

Bacterial Injections in the Treatment of Certain Diseases of the Skin.

DRS. JAY FRANK SCHAMBERG, NATHANIEL GILDERSLEEVE and HARLAN SHOEMAKER, Philadelphia, reported twenty-one cases treated by bacterial injections. They believe that while this method of treatment has hitherto been limited to lupus vulgaris and circumscribed pyogenic affections of the skin, it is not impossible that it may be found of value in the treatment of other cutaneous diseases that result from parasitic infections.

Erythema Circinatum Bullosum et Hemorrhagicum.

DR. WILLIAM T. CORLETT, Cleveland, reported the case of an erythematous eruption preceded by pain in the joints, appearing three years after a gunshot wound and followed by the formation of bullæ, petechiæ and death. The autopsy revealed old fibrinous adhesions about the spleen, and the gross appearance of this organ was found more dense than normal. Small hemorrhagic spots were found near the pyloric end of the stomach. At the cardiac extremity a small area was found denuded of gastric epithelium. There was no evidence that the gunshot wound had any etiologic influence on the disease. The case seems to demonstrate a connecting link between erythema and purpura.

The Need for Higher Requirements in Examinations in Dermatology and Syphilology by Medical Colleges and Licensing Boards.

DR. WILLIAM F. BREAKEY, Ann Arbor, said the "need" is shown by published questions of examining boards, and in relative time and space in curricula of some teaching colleges. The relative number of patients, clinical and private, suffering from dermal affections, as compared with other special fields of medicine to which more time is given, seems to furnish a sufficient reason why a general medical education should provide better facilities for the study of dermatology and syphilis in particular.

THIRD DAY, WEDNESDAY, SEPTEMBER 11.

Vice-Presidents, DR. H. HALLOPEAU, Paris, and DR. VEIEL, Darmstadt, Chairman.

Systemic Blastomycosis.

DR. FRANK H. MONTGOMERY and DR. OLIVER S. ORMSBY, Chicago, said that about 100 cases involving the skin have been recognized. The purpose of the paper is to call attention to a number of recorded and unrecorded cases of systemic blastomycosis and to summarize and classify the clinical and pathologic features of the disorder. They collected nineteen cases (four not published) in which the diagnosis has been demonstrated beyond question. In the nineteen cases there were but two recoveries. All of the cases, with possibly one exception, presented multiple subcutaneous abscesses and nodes, usually indolent in type. The relation between systemic blastomycosis and the case reported chiefly from California as granuloma coccidividis, etc., was discussed. In gross and microscopic pathology the two disorders resemble each other closely. It may be with enlarged material and further study they will be found to be but variations of the same general process.

DISCUSSION.

DR. JOSEPH ZEISLER, Chicago, said that he has seen two cases of systemic blastomycosis. In one case the patient was treated by various means, including the *x*-ray, with little result. He went to California, where the disease disappeared spontaneously. The other case was that of a young woman, sick with high fever, and it was thought she had some pulmonary affection of some kind. A tentative diagnosis of tuberculosis was made. One day when the fever was at its height she expectorated and the blastomycotic organism was found. A few days later the patient was well.

DR. JAMES NEVINS HYDE, Chicago, referring to the case reported by Dr. Zeisler, said that he was induced to send specimens abroad to various microscopists, but they were unable to make the diagnosis. The fact that this patient, after treatment with iodid of potassium and other means, was cured after reaching California was remarkable.

DR. D. W. MONTGOMERY, San Francisco, said that genetically there are differences between the two fungi in these cases. The organism has a capsule with spores in it, without evidences of budding. The life cycle is very different from that found outside. There is no doubt but that the organism grows well in California.

DR. OLIVER S. ORMSBY, Chicago, said that the patient referred to received large doses of iodid of potassium which might have had something to do with his recovery, combined with the *x*-ray and change of climate.

Blastomycosis of the Skin.

DR. M. OPPENHEIM, Vienna, Austria, said that the first case in Europe conforming with the American cases of this disease (pseudolupus), was observed by him in Neumann's clinic in 1904. Later he had occasion to observe three others. The clinical picture in the earliest stage was a light, red-stained, swollen lesion with characteristic pustules. Microscopically, there was an overgrowth of epidermis and an infiltration of the corium with round, plasma and giant cells even to the

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subcutis. A few blastomycetes were present. The therapeutic effect of potassium iodid was evident in all four cases.

The Thyroid as a Factor in Chronic Urticaria.

DR. M. L. RAVITCH, Louisville, Ky., claimed that chronic urticaria should be classified as a curable disease. He made a plea for a more thorough study of thyroid-therapy, as he firmly believes that in many cases of chronic urticaria thyroid extract is a specific. Chronic urticaria being more frequent among women than men, and the fact that functional thyroid disorders are also found more among women, led him to believe functional disorders of the thyroid to be the cause of chronic urticaria.

Hydroa Puerporum.

DR. MARCUS HAASE, Memphis, Tenn., and DR. ROSE HIRSCHLER, Philadelphia, reported a case seen with Dr. Unna at his clinic in Hamburg. On studying the sections made from the lesions, one is forced to the conclusion that the disorder is an acute inflammatory affection, with destruction of its component elements rather than proliferative growth. Vesiculation is the ultimate outcome of the process. Unna in his article describes hydroa puerporum as a form of Duhring's disease. They do not think this position can be sustained. In claiming for this disease a place in the nomenclature as a dermatologic entity, they offered the following description: 1. An acute erythemato-vesicular disease, preceded and accompanied by intense burning and itching. 2. The vesicles coalescing to form bullæ. 3. Involution of lesions without pitting and scarring. 4. The first attack occurring in the first year of life. 5. Recurrence of attacks independent of external influences. 6. Gradual lessening of attacks in extent, intensity and duration. 7. Spontaneous disappearance at puberty. 8. Unrestricted as to any particular region. 9. Restricted to male sex. 10. Relatively normal health during attacks. 11. To this may be added the superficial character of the disease, the lesions being confined to the rete.

Dermatitis Coccidioides.

DR. A. RAVOGLI, Cincinnati, reported a case under the nomenclature of dermatitis coccidioides, because the parasite found in the lesions resembled more closely a coccidium. The clinical features of the disease, although related to blastomycetic dermatitis, were somewhat different. The parasite taken directly from the ulcerated surfaces had a long thread of mycelium, but when cultivated on glycerin agar and on blood serum showed only round bodies with scarcely any mycelium. Its growth was rapid and abundant and its development seemed to be due to endogenous proliferation. The result of the treatment was also different from that obtained in true blastomycosis.

THURSDAY MORNING, SEPT. 12, 1907.

PROF. E. GAUCHER, Paris, and DR. ANDREW R. ROBINSON, New York, Chairmen.

The morning session began with an examination of patients and a formal discussion on the same.

PROF. THOMAS DE AMICIS, of Naples, Italy, was elected president of the next Congress, which is to be held in Rome in 1910.

The Specific Action of Radium in Therapeutics.

DR. ROBERT ABBE, New York City, said that radium ranks, not with caustics, cautery, antiseptics or medication, but with specifics. This does not mean a "specific" for cancer in the popular sense, but for erratic cell growths constituting some types of tumor tissue in the earlier stage of invasion or of moderate development. Details of the method of using it have not yet been fully worked out. The dosage, so to speak, or time of exposure necessary for curative action, is as yet empirical. Some apparent cures of small epitheliomas or sarcomas have endured already more than three years. A photographic plate provides a good test, to show the working force of an unknown specimen, in comparison with one of standard strength. It is not entirely a mysterious force; but, in part at least, is an electric discharge, essentially of negative elements. Hence, so far as it is possible to say, it suggests a theory of its action, in that it may supply an element of electric force vital to normal and orderly growth, the loss of which may have caused a disorderly cell growth which in the aggregate constitutes tumor masses. It is supplementary to Roentgen rays and, in some cases, is efficient where it fails. The overaction of strong radium is destructive and vitiates the benefit of moderate use. The best results have followed one hour's exhibition of the working unit (10 mg. RBr) on small growths, and three to four hours on larger ones, with an interval of one month for study of the effect. Isœnemia of the parts during treatment greatly enhances its action. Pigmented moles, melanotic growths, and giant cell sarcoma, like epitheliomata of the eyelids, face and body, are particularly susceptible to its curative action, as a specific agent. But its value in nevoid and angiomatous tumors is due to its irritant action, producing obliterating endarteritis and fibroid changes.

DISCUSSION.

DR. JAY F. SCHAMBERG, Philadelphia, said that the question is, Does radium do more than the *x*-ray? Where radium recommends itself is in those inaccessible cavities where the *x*-ray can not be applied. It is possible that the future development in its technic may increase their results.

DR. H. RADCLIFFE-CROCKER, London, related experiences with radium emanations. It was discovered that with a solution of radium there occurs a decomposition of the water into hydrogen and oxygen, and radium emanations present give various physical results. Injections made in mucosis fungoides were very painful; indurations formed lasting some time, showing that it is an agent of great power. In psoriasis, some of the patches disappeared entirely under its use.

DR. HERMAN LAWRENCE, Melbourne, Australia, said that in cases of rodent ulcer liquid radium is the best treatment of all. Also it is of great value in keratosis senilis when combined with the *x*-ray. In pigmented moles, the *x*-ray offers better results than radium. In eczema seborrhœicum of the brow, where one can not use the *x*-ray, radium will remove it and without destroying the hair.

Epitheliomata Treated with Roentgen Rays.

DR. WILLIAM ALLEN PUSEY, Chicago, made the following summary: Of the 31 cases which are classed as not entirely successful, 28 were cases which had failed of relief under other forms of treatment; only three were primary cases. These three cases were all in the group of failures and they were all of inoperable carcinomata involving the orbit and were all patients who abandoned treatment before any result might have been expected. There is in this entire list of 29 cases not successful five cases only in which, in his opinion, there was any hope of cure by other methods of treatment. In all of these five cases the patients had previously been treated surgically and all were referred to him by surgeons. One case in the practically successful group was that of an epithelioma involving the external auditory canal. The other four cases were among the failures. In three of these the patients would not take the trouble to finish their *x*-ray treatment. In other words, in the entire 111 cases treated there are only three failures in which there was any reasonable hope of success. Twenty-eight of the 111 cases were hopeless or most unpromising as far as any other method of treatment was concerned; of the 83 remaining cases, 80 were successful. Counting these 31 cases as failures, there were 80 successful cases in the list of 111 successive cases of epithelioma treated more than three years, a showing of 72.5 per cent. of successful results in 111 unselected cases.

Dermatologic Cases Treated With Roentgen Ray and High-Frequency Currents.

DR. SAMUEL STERN, New York, said that in epithelioma the results accomplished depend on the proper choice of cases. Most favorable are those situated on the surface of the epidermis. The best results are achieved by a combination of the *x*-ray and high-frequency spark. In deep-seated carcinoma there is very little to be expected. It is more encouraging in the various forms of sarcoma. In acne vulgaris, the results are very gratifying, while in acne rosacea there is very little to be accomplished. In psoriasis the value of the *x*-ray is well

established, also in different forms of eczema. Lichen chronicus, lichen planus and lichenoid eczema conditions are more stubborn, but generally yield to *x*-ray treatment. Lupus erythematosus does well with the high-frequency spark treatment, but it often recurs. Lupus vulgaris affecting the mucous membranes is best treated with the *x*-ray, while other parts of the skin respond best to the high-frequency spark. Various types of verruca and nevi can be readily destroyed with the high-frequency spark. In keloid, to expect permanent results, we must persist with the *x*-ray until a fair degree of dermatitis is produced. Folliculitis decalvans yields well to *x*-ray and the high-frequency current. Mycosis fungoides can be indefinitely controlled by the *x*-ray, but not cured; treatment must be kept up or lesions return. In rhinoscleroma we get probably a definite cure. In sycosis, favus and trichophytosis capitis the results accomplished with the *x*-ray are very satisfactory, but in the latter two we must use other treatment in addition. Hypertrichosis can be cured with the *x*-ray, but requires very careful technic. Hyperidrosis may be benefited, but only after a long series of treatments.

DISCUSSION.

Dr. Neuberger, Nuremberg, Germany, recalled a case of Paget's disease of the breast treated for one and a half years with splendid results. The effect of the *x*-ray in Paget's disease, as in mucosis fungoides, is to produce better and better effects at first, but later on they are practically without effect.

Dr. M. B. Hartzell, Philadelphia, speaking of the treatment of epitheliomata at mucocutaneous borders, claimed that dermatologists are badly treated by the general surgeons and that there are certain cases in which the *x*-ray may be used in the treatment of epithelioma of the lip. Dr. Hartzell admits that excision is the proper treatment in these cases, but he also declares that there are cases in which the *x*-ray would be better.

Dr. W. A. Pusey, Chicago, said that his rule is this: He is willing to treat epithelioma with the *x*-ray in which a conservative surgeon does not think it necessary to remove the contiguous glands. That at once eliminates all epitheliomata about mucocutaneous junctions, but not epitheliomata about the lips in old people or in those rare cases where operation is not tolerated. He thinks one is entitled to ask the question, Whether in a selected number of cases the use of the *x*-ray is not a reliable method? He has yet to see a mass of carcinoma involving the skin that did not ultimately undergo degeneration under *x*-ray treatment. There is a great difference in the susceptibility of different tissues to the *x*-ray. But there is to be considered the personal equation as well.

(To be continued.)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

How a Pure Food Law Came to Tennessee.

The Transactions of the Tennessee State Medical Association for 1907, just received, show the present membership of that association to be 1,100. The president, Dr. L. A. Yarbrough, of Covington, in his opening address to the house of delegates, advocated the substitution of a monthly journal for the present volume of transactions. The report of the secretary showed that the expense of publishing and distributing the transactions amounts to about $950, or an average of eighty-six cents a member.

Among the reports presented was one by Dr. A. B. Cooke, of Nashville, who was later elected president of the association. Dr. Cooke detailed the history of the campaign for the adoption of the pure food and drug act which was passed by the Tennessee legislature last winter and which is one of the best pure food laws adopted by any state. A committee of three was appointed at the 1906 session of the state association to confer with a similar committee of the Tennessee Press Association on the "patent-medicine" evil, with special reference to nostrum advertising. This committee was given power to act as it might see fit. After a single conference, the committee of the press association declined to continue the discussion, as it was persuaded that the members of their association would decline to take any action on the subject. The committee of the State Medical Association, therefore, undertook the work of arousing popular sentiment along this line independently. Addresses were made on the subject in many of the principal towns of the state and, just before the meeting of the state legislature, a bill was prepared by a competent attorney, incorporating all the provisions of the national Food and Drugs Act, which could be applied to state conditions. This bill was introduced into the house by W. B. Marr, representative for Davidson County. The Nashville Academy of Medicine and Davidson County Medical Society appointed a local committee to work for the bill. Minor alterations in great number were at once proposed by wholesale and retail druggists throughout the state, some of which were incorporated in the bill for the sake of harmony. The measure was referred to the committee on finance and ways and means, where it was attacked by the proprietary medicine interests, which objected to the enforcement of the bill being placed in the hands of the State Board of Health, asking for a special commission. They proposed a board to consist of the president of the State Board of Health, the president of the State Board of Pharmacists and the commissioner of agriculture and introduced a substitute bill containing this feature, also incorporating other changes intended to emasculate the measure. After being considered in the committee, both the original and the substitute bills were ordered printed. When the printed copies were received, it was found that the title of the original Marr bill had been left intact, but that the contents of the bill had been materially changed and an entirely new bill substituted therefor. This trick was exposed on the floor of the house by the chairman of the finance committee, an investigating committee was appointed and the correct bill was ordered sent to the printer. In spite of active lobbying against the Marr bill on the part of drug and proprietary medicine interests, the substitute bill was tabled and the Marr bill recommended for passage. In spite of various efforts to amend it, it was passed by a majority of 74 to 10.

One chapter of the fight is especially worthy of note. We quote from Dr. Cooke's article:

The bill was passed by the house on Friday, March 22. On the following Sunday night, March 24, a certain "Colonel" J. B. Duble, of Pennsylvania, "happened," as he himself declared, to drop in on the scene of action. He announced that he was a great philanthropist, and that he was engaged in the noble mission of harmonizing physicians and druggists all over the country. Our suspicions being aroused by the remarkable timeliness of the colonel's visit and by the peculiar odor of his self-styled philanthropy, the wires were put in operation in an effort to get a line on him. During the next few days, he was conspicuously active at the capitol and elsewhere and appeared before the senate committee on sanitation, to whom the bill had been referred, in support of the contentions of the drug interests. In a most vicious and vindictive argument made before that committee, at the instance of certain druggists, among other remarkable utterances, this imported lobbyist had the effrontery to openly "demand" that the drug interests be given representation in the enforcement of this law that could not possibly be of any legitimate concern to him.

Dr. Cooke then goes on to relate how information regarding the "Colonel" was obtained, showing that he was the ex-chief organizer of the N. A. R. D. and the former editor of a publication known as the *Voice of the Retail Druggist*. This matter was discussed in a previous issue of The Journal.[1] The day after receiving this information, Dr. Cooke met "Colonel" Duble and describes his interview as follows:

A personal introduction to the "Colonel" in one of our drug stores gave me an opportunity to ask him a few innocent questions as to his history and mission. The effect was magical His self-styled importance and rather arrogant air quickly gave way to surprise and confusion. He remained in the city

1. The Journal A. M. A., Feb. 16, 1907, page 623.

only twenty-four hours longer, leaving in the very thickest of the fray and three days before the bill came to final action in the senate.

The senate committee on sanitation, to which the bill was referred, recommended a substitute, making vital modifications in the bill. Accordingly, the fight was carried to the floor of the senate, and, as Dr. Cooke says, "your committee devoted little time to eating, sleeping or to the practice of medicine during the ensuing week." As a result, the substitute bill was tabled by a vote of 15 to 14 and the Marr bill was passed by a vote of 21 to 9.

Dr. Cooke summarizes the experience of the committee as follows:

1. *Methods and Personnel of the Opposition.*—This did not include reputable, legitimate pharmacists, but public manufacturers and nostrum makers. The opposition did not stop with misrepresentation, but indulged in the most virulent abuse and misstatement of fact against the entire profession.

2. *The Great Possibilities of Medical Organization.*—While the bill was pending before the legislature, letters were sent out to the physicians of the state and to county societies asking their cooperation. Dr. Cooke considers the aid given the committee by the organized profession as an absolutely indispensable feature of success.

3. *The Clean Method of Lobbying.*—No attempt was made to influence any member of the legislature except by an intelligent appeal to his reason and conscience.

Dr. Cooke pays special tribute to the interest and assistance of Governor M. R. Patterson.

Two facts are especially worthy of emphasis in connection with the fight of the Tennessee profession for pure food and drugs, as well as that carried on by the Texas physicians for a better licensing law. These are, first, that the united, intelligent support of the profession of the state is absolutely necessary for success, and, second, that, no matter how carefully framed a bill may be when it is introduced into a state legislature, the only means of securing satisfactory legislation and avoiding the defeat of the bill or the introduction of amendments which practically nullify it is to have a small, energetic and thoroughly competent committee watching and working for the passage of the bill from the time it is introduced until the time it receives the governor's signature and becomes a law. This requires great exertion and marked sacrifice on the part of the members of the profession who are selected to lead the fight, but it is the only way, under present conditions, to secure satisfactory legislation.

Excellent Legislation in Wisconsin.

In the September *Wisconsin Medical Journal* Dr. C. A. Harper, secretary of the State Board of Health, declares the new law establishing a bureau of vital statistics one of the most important passed by the 1907 legislature. This law provides for a bureau under the control of the State Board of Health in which shall be entered all matters relating to births, deaths, marriages, accidents and divorce. The deficient provisions along these lines in this country, as compared with foreign countries, have often been commented on. Dr. Harper emphasizes the importance of such records, not only for the study of disease but for practical purposes.

The main features of the system of registration used by the Federal Census Bureau have been incorporated in the Wisconsin law. Attending physicians and midwives must report births to the local registrar within five days. Deaths must be reported to the proper officer before a burial permit can be obtained, the responsibility for the permit resting on the undertaker in charge. Physicians are required to report all injuries which incapacitate the individual for two weeks or more. This is an entirely new feature and will render possible the collection of data regarding industrial injuries, etc.

A new law regulating smallpox and vaccination was also passed by the legislature, prohibiting the attendance at school for twenty-five days after the appearance of smallpox, of any pupil or teacher who has not been successfully vaccinated or who fails to show a certificate of recent vaccination. The local board of health is authorized to issue a new order at the end of each twenty-five days if any cases of smallpox have developed during that period. The city, village or town in which the vaccination is performed is made responsible for the expense, if the parents or guardian of any child are unable to pay for it. Local boards of health are authorized to provide free vaccination for all children if they think such action is needed.

A law regarding the registration of all cases of tuberculosis was also adopted. All persons afflicted with tuberculosis of the lungs or larynx are required to provide themselves with a suitable receptacle in which to deposit the sputum, when traveling in any public conveyance or attending any public place. Local boards of health are required to furnish antitoxin free to all indigent persons suffering from diphtheria and the state board of health is required to keep a fresh stock on hand for the use of local health boards. No person is permitted to take, aid in taking, advise, or cause to be taken, any person afflicted with a contagious or infectious disease into any public place or public conveyance, or in any way wilfully to subject others to the danger of contracting such a disease.

The latter law is expected to do much good in preventing the spread of contagious diseases.

Successful Fight Against Quacks in Missouri.

The *Journal of the Missouri State Medical Association* announces in its September number the successful termination of the warfare on quackery which was inaugurated by the profession of Kansas City against Drs. W. O. Bye and O. A. Johnson, so-called "cancer specialists" of Kansas City. As was noted in THE JOURNAL some weeks ago, these two individuals were, as our Missouri contemporary puts it, "tried by the State Board of Health, which found them very innocent of any knowledge of the science of medicine but most guilty of gross misrepresentations and fraudulent practices and revoked their licenses. The *Journal* also calls attention to the fact that much credit for this result is due to Mr. George Creel, editor of the Kansas City *Independent*, who fearlessly attacked the quack specialists for their disgraceful business. It is significant, as well as deplorable, that the *Independent* was the only Kansas City paper which published an account of the trial. Now that these two men have been publicly and officially declared unworthy to practice medicine in Missouri, it is to be hoped that the editors of religious papers which have carried Bye's cancer advertising will "see a great light" as far as their duty to their readers is concerned and will be able to live up to the high standard established by the Missouri State Board of Health.

POSTGRADUATE COURSE.

Outline for the Weekly and Monthly Meetings.

It will be noted in the outline of the first month[1] of the course of postgraduate study that there are four weekly meetings, followed by a program for a monthly meeting. In any society in which three or more members can meet regularly, the weekly programs should be followed, each leader finding in the elaborated program the points of importance he is expected to bring out.

It is suggested that the weekly meetings be held the first of each week, Monday or Tuesday evening, and the monthly meeting the last Wednesday or Thursday in each month. In this way the course of study will correspond to the calendar. Experience will teach each society whether it is better to assign the work in rotation, or to assign certain leaders for a period of three or four months.

In those societies in which the members are unable to attend weekly meetings on account of distance, weather, etc., and in which only monthly meetings are held, the weekly programs should be followed by each member as a "reading course" of home study as preparation for the discussion of the topics for the monthly meeting.

It will be found that only those who are willing to devote time and study to the course will be enabled to follow it to any purpose. If each leader comes prepared to present his subject properly, there will be ample time for the proper discussion of each subject. Each leader may hold a review quiz of the subjects of the preceding meeting with profit to all.

1. THE JOURNAL A. M. A., Sept. 21, 1907.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

INDIAN TERRITORY, Western District Board of Medical Examiners, Muskogee, October 7. Secretary, Dr. M. F. Williams, Muskogee.

UTAH State Board of Medical Examiners, Salt Lake City, October 7-8. Secretary, Dr. R. W. Fisher, Salt Lake City.

ARKANSAS State Board of Medical Examiners, State Capitol Building, Little Rock, October 8. Secretary, Dr. F. T. Murphy, Brinkley.

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock, October 8. Secretary, Dr. V. H. Hallman, Hot Springs.

GEORGIA Board of Medical Examiners (Regular), Capitol Building, Atlanta, October 8. Secretary, Dr. E. R. Anthony, Griffin.

MICHIGAN State Board of Registration in Medicine, Lansing, October 8. Secretary, Dr. B. D. Harison, 205 Whitney Building, Detroit.

MISSISSIPPI State Board of Health, Jackson, October 8. Secretary, Dr. J. F. Hunter, Jackson.

WYOMING State Board of Medical Examiners, Laramie, October 9. Secretary, Dr. S. B. Miller, Laramie.

KANSAS State Board of Medical Registration and Examination, Topeka, October 8-10. Secretary, Dr. D. P. Cook, Clay Center.

RHODE ISLAND State Board of Health, Room 315, State House, Providence, October 10-11. Secretary, Dr. Gardner T. Swarts, Providence.

DISTRICT OF COLUMBIA Board of Medical Supervisors, Law School of Georgetown University, Washington, October 10-14. Secretary, Dr. Geo. C. Ober, Washington.

GEORGIA Board of Eclectic Medical Examiners, Senate Chamber, Atlanta, about October 15. Secretary, Dr. C. H. Field, Marietta.

NEW JERSEY State Board of Medical Examiners, State House, Trenton, October 15-16. Secretary, Dr. J. W. Bennett, Long Branch.

TEXAS State Medical Examining Board, Fort Worth, October 21. Secretary, Dr. G. B. Foscue, Waco.

LOUISIANA State Board of Medical Examiners, Tulane University Medical Department, October 22-23. Secretary, Dr. F. A. LaRue, 211 Camp St., New Orleans.

INDIANA Board of Medical Registration and Examination, Indianapolis, October 22-24. Secretary, Dr. W. T. Gott, Crawfordsville.

ILLINOIS State Board of Health, Great Northern Hotel, Chicago, October 23-25. Secretary, Dr. J. A. Egan, Springfield.

Kansas February and June Reports.—Dr. F. P. Hatfield, secretary of the Kansas State Board of Medical Registration and Examination, reports the written examinations held at Topeka, February 12, and at Kansas City, June 11-14, 1907. The number of subjects examined in was 12; total number of questions asked, 100; percentage required to pass, 75.

At the examination held at Topeka, February 12, the total number of candidates examined was 8, of whom 6 passed and 2 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Kansas Med. Coll.	(1900)	....
Hospital Coll. of Med., Louisville	(1898)	....
University of Maryland	(1905)	....
Kansas City Med. Coll.	(1903)	....
University Med. Coll., Kansas City	(1898)	....
University of Nebraska	(1905)	....

FAILED.

Barnes Med. Coll.	(1906)	....
Miami Med. Coll.	(1887)	....

At the examination held at Kansas City, June 11-14, the total number of candidates examined was 114, of whom 107 passed and 7 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Hahnemann Med. Coll., Chicago	(1907) 83, 84, 86	
University of Louisville	(1907) 80, 81, 82	
Kansas Med. Coll., (1907) 75, 77, 78, 78, 79, 79, 80, 80, 80, 81, 81, 81, 84, 84.		
University of Kansas, (1907) 75, 75, 77, 77, 78, 78, 79, 79, 79, 79, 79, 79, 80, 80, 80, 80, 81, 81, 81, 83, 83, 83, 83.		
Kansas City Hahnemann Med. Coll.	(1907) 76, 78, 78, 80, 81.	
Kansas City Med. Coll.	(1903) 78	
Barnes Med. Coll.	(1906) 81; (1907) 76, 78, 79, 82	
Ensworth Central Med. Coll., (1906) 76; (1907) 76, 77, 77, 78, 78, 78, 78, 78, 78, 79, 79, 79, 79, 82, 83.		
University Med. Coll., Kansas City	(1901) 78; (1904) 79; (1905) 78, 82, 86; (1907) 75, 79, 79, 79, 79, 80, 81, 81, 82, 83, 83, 84.	
Eclectic Med. University	(1906) 78; (1907) 75, 75, 77, 78, 79, 79, 80.	
St. Louis Coll. of P. and S.	(1901)	82
St. Louis University	(1907)	83
Central Med. Coll., St. Joseph	(1905)	76
Lincoln Med. Coll.	(1907)	75
Eclectic Med. Institute, Cincinnati	(1890)	80
Meharry Med. Coll.	(1906) 82; (1907) 75, 80, 83	

FAILED.

University of Kansas	(1907)	....
University of Louisville	(1907)	....
Barnes Med. Coll.	(1907)	....
University Med. Coll., Kansas City	(3, 1907)	....
Meharry Med. Coll.	(1906)	....

Higher Requirements in Missouri.—As a result of the amendments to the medical practice act secured at the last session of the state legislature the Missouri State Board of Health has adopted higher requirements for license. Each applicant must possess: First: A certificate of graduation from an accredited high school, state normal school, college, university, academy or a certificate from a county school commissioner, certifying that the student has passed an examination equivalent to a grade from an accredited high school. An accredited high school is construed by the board to mean a high school whose diploma will suffice for admission to the University of Missouri. Second: A diploma from a medical college having a four years' course. Third: The medical college in question must have the official sanction of the State Board of Health. Fourth: Applicant must then pass an examination before the State Board of Health, averaging 75 per cent. It is encouraging to learn that the board has ruled against the Hippocratian College of Medicine, the new St. Louis night school.

Entrance Requirements of the University of North Dakota.—In THE JOURNAL, Aug. 17, 1907, page 600, through an error, the Medical Department of the University of North Dakota was included among the colleges requiring two years of university work for admission to the medical course. While the university strongly urges students to secure that amount of preliminary education, it still allows students to enter after a four-year high school education.

What Constitutes an Adequate Pre-Medical Education.—State examining boards and others interested in establishing high standards will be interested in the report of a special committee of the Alumni Association of Rush Medical College, which appears in the *Bulletin* for September, 1907. After giving an account of the trend of modern medicine the committee recommends the following preliminary education:

1. *English.* The ability to express one's self clearly and forcibly, in terse grammatical English. This is a *sine qua non.* Such ability can only be acquired by a study of grammar and rhetoric, a considerable reading of the best English authors, and a good deal of practice in composition. Such a course should extend over a four-year high school course, and at least one year in college.

2. *Mathematics.* Algebra, through quadratics; geometry (at least plane geometry), trigonometry (indispensable to the study of physics), are essential, while a knowledge of calculus and higher algebra is of advantage.

3. *Latin.* The equivalent of six books of Caesar's Gallic War, with the corresponding knowledge of grammar and composition, is demanded by statute in some states as an essential prerequisite.

4. *German and French.* A reading knowledge of one (better both) of these languages is regarded by all leading medical educators as indispensable to the efficient study of medicine and the progressive medical man. Such a knowledge is not usually to be acquired in the high school, and then only by displacing some other study.

5. *Physics.* A fairly comprehensive knowledge of physics, especially molecular physics, sound, light and electricity, with a good laboratory training, is to-day quite indispensable to a clear understanding of many facts in physiology, pathology and the clinical branches. A year of good high school work in physics should be followed by at least one semester (better one year) of college work after the student has had trigonometry.

6. *Chemistry.* Equally as fundamental and essential as physics to the medical branches is chemistry, and here the minimum ground to be covered requires more time, at least one and one-quarter years of college chemistry (inorganic, organic, qualitative and, if possible, quantitative analysis) being a minimum.

7. *Biology.* Comprising a study of typical forms with dissection, a study of animal tissues and organs, with training in the use of the microscope, should be had by every student, and in addition, if possible, a course in vertebrate anatomy, before he enters upon the study of the more intricate and complicated structure of the human body. Such courses are very rarely offered in high school, and must be sought in a college or university.

Most important of all things is the *education*, the development and training of the faculties of the student, to the end that he become a capable, cultured man, a keen, accurate observer, and a clear, logical thinker.

Medicolegal

Injury to Person in Diseased Condition—Privilege Not Waived by Unconsidered Answer.

The Supreme Court of Minnesota says that in the personal injury case of Ross vs. Great Northern Railway Company the plaintiff claimed to have been injured by stepping into an opening along the defendant's track. The defendant, on the other hand, claimed that the serious condition of the plaintiff's leg, which subsequently developed, was due to "osteomyelitis," an inflammation of the bone and its marrow, which had its inception in a gunshot wound received when he was a boy. One of the railway surgeons testified that, when a bone is diseased, a blow is a common exciting cause of such conditions as were found in this case. The ankle was also weak from a former injury. But the court affirms a judgment in the plaintiff's favor. It says that a person is not prevented from recovering damages because at the time of the injury he was in such a condition that an injury was more likely to be attended with serious results, or by the injury an old disease was aggravated, or, had it not been for his diseased or injured condition, he would not have suffered from the new injury. A person who is injured by the negligent act of another may recover the resulting damage, although damage would not have resulted, or would have been much less, but for his diseased or weakened condition before and at the time of his accident.

The court also holds that a party may consent that his attending physician may testify against him, but a statement made during cross-examination, without an opportunity to advise with his counsel and without a full understanding of his legal rights, that he has no objection to the physician testifying, should not be treated as waiver of his privilege which can not be thereafter withdrawn.

Physician Can Not Hold Proprietor of Hospital on Verbal Promise to Pay Charges Against Patient.

The Appellate Court of Indiana, Division No. 2, says that a complaint filed in the case of Molt vs. Hoover, stated, in substance, that the defendant was the owner, proprietor, and manager of a maternity home and lying-in hospital; that from the 27th of March until the 24th day of April the plaintiff, at the request of the defendant, rendered medical attention to a woman then about to be confined in said maternity home, and at her request procured a nurse for and had consulting physicians attend on said woman; that the defendant was indebted to him in the sum of $181 for medical attention and nurse hire furnished as aforesaid. The jury were instructed, in substance, that, under the statute of frauds, one can not be held liable for the debt of another, unless the promise to pay said debt is in writing, signed by the person sought to be charged; that to entitle the plaintiff to recover it must appear from the evidence that there was a contract entered into between the plaintiff and the defendant that the services were in the first instance to be charged to the defendant, and they were to be rendered on her account; that unless the jury found such contract to have been so entered into, by a preponderance of evidence, the verdict should be for defendant. The trial resulted in verdict for defendant, which is affirmed.

Malpractice Charged for Injury from "Liquid Glass" Cast—Admissibility of Evidence—Expert Testimony and Hypothetical Questions.

The Supreme Court of Iowa says that in the case of Ball vs. Skinner the evidence tended to show that the defendant, an experienced physician and surgeon, was called on at his office by the plaintiff, who complained of some injury to his ankle, and desired, if possible, to have it treated in such manner as to permit him to go out on the street and attend to his business. The defendant told him that he could encase the ankle in a tight cast which would not prevent his moving on crutches. It was also shown that to make such casts surgeons sometimes employ a solution of silicate of soda, commonly known as "soluble glass," which solution physicians do not ordinarily manufacture or keep in stock, but rely on druggists to furnish on call.

The defendant, having decided to use a cast of soluble glass (sodium silicate), telephoned to a pharmacist of whom he was in the habit of purchasing such materials, to send him a quantity of the solution. The pharmacist replied that he had none on hand, but could make some, and was told to proceed to do so. The pharmacist, with his assistant, proceeded to prepare the solution, and when completed sent it to the office of the defendant, who thereupon made use of it in bandaging and fixing the plaintiff's injured ankle.

This treatment was concluded about 1 or 2 o'clock in the afternoon, after which the plaintiff returned home. About 6 o'clock in the evening the plaintiff sent for the defendant, who responded to the call, and, on complaint of the plaintiff that his foot was paining him, cut the bandage part way down from the top. On this being done, the plaintiff seemed to be relieved, and the defendant left him for the night. In the morning the defendant repeated his visit and removed the cast and bandages from the injured limb. It was then revealed that the flesh on the defendant's foot and ankle had been severely burned and injured, as if by a caustic application. Immediately thereon the defendant applied remedies to arrest the injurious results of the application, and continued to attend the plaintiff thereafter for several months, till he was substantially recovered. This action was afterwards brought to recover damages and resulted in a judgment in the plaintiff's favor for $2,500, which, however, the supreme court reverses for various errors. It says that the question was whether, conceding such injury, the same was properly chargeable to negligence on the part of the defendant.

To begin with, the Supreme Court thinks that the defendant, being a witness in his own behalf, and testifying also as an expert surgeon, ought to have been allowed to answer a question asked him, whether, assuming that this preparation was as caustic as it had been shown to be by its effects on this man's ankle, the caustic had expended its force and done its damage by the time of the first visit. It says that the plaintiff charged negligence in two respects: First, in the application of the solution to his ankle; and, second, in failing to discover the difficulty and remove the bandage at the time of the defendant's visit on the evening after the first treatment. If the jury should find, as it well might find under the testimony, that the defendant was not chargeable with negligence in the first treatment, and was negligent in failing to see the character of the application and remove the bandage on his visit to the plaintiff in the evening, it would be very material to ascertain whether the damage or injury of which complaint was made had already taken place before his said visit. The question asked was fairly well calculated to elicit relevant testimony on this point, and it was an error to exclude it.

Again, the defendant, as a witness in his own behalf, was asked if he knew whether the druggist at the time in question was holding himself out and advertising himself as a manufacturing chemist, and, on objection of the plaintiff, the answer was ruled out. The Supreme Court thinks the evidence sought by this query was very material. It says that if the druggist was doing business as a reputable druggist or chemist and holding himself out to the world as a person skilled in such work, then under ordinary circumstances, the defendant would be justified in depending on his reliability and competency and accepting the solution purchased of him as being what it purported to be; and, in the absence of any circumstance which should have put him on his guard, he would not be chargeable with negligence in using such solution on the plaintiff's ankle. The matter inquired about had a direct bearing on the first ground of negligence alleged and should have been admitted.

The druggist, testifying for the plaintiff, stated that he compounded the solution according to a formula found in the United States Dispensatory. The Supreme Court says that the witness having first testified concerning the book formula, it was proper to cross-examine him thereon; but such cross-examination did not open the door to the plaintiff to place the contents of the book before the jury in the support of his case.

It is true, the Supreme Court also says, that the verdict when reached is to reflect the final opinion and conclusion of the jury on the whole case, and jurors are not to substitute the opinions of witnesses for their own, yet in stating this rule

care should be observed to avoid giving them the impression that they can properly reject evidence simply because it is expert in character, and register their own conclusions without giving it any consideration. In other words, they should be made to understand clearly that their verdict is not to be founded on their private personal views of the subject abstractly considered, but on the conclusion to which their minds are brought after a fair consideration of all the evidence.

An instruction that the jury should "not allow expert evidence to overthrow positive and direct evidence of creditable witnesses, testifying from personal knowledge," the Supreme Court thinks could not be approved. It says that some of the most important questions in this case were of a character that only an expert witness could speak with any degree of clearness or certainty, and the parties were entitled to have the same go to the jury without the handicap placed on it by the instruction referred to. If the instruction had said no more than that the jury were not necessarily bound by opinion evidence as against positive evidence of credible witnesses where the two kinds of evidence were in conflict, no just exception could be taken to it; but the direction of the trial court was not so limited, and the jury were told, in substance, that, where such a conflict arises, the proposition supported by the experts must fail. A little reflection will make it plain that this ought not to be the rule, and this court thinks the authorities do not sustain it.

For instance, in a given case, a witness of unimpeachable character for veracity and candor may testify to an alleged fact or state of facts as having occurred under his personal observation, while against his testimony there may be an unbroken array of scientists, students, and experts of the most eminent rank testifying that such an occurrence is impossible. Now, it is perfectly competent for the jury to believe and find the fact to be with the non-expert witness, as against the united opinion of the experts; but, on the other hand, if the jury believes that, notwithstanding the high character and good faith of the non-expert, he has been misled in the matter by some mistake in observation or by some deceit practiced on him of which he has no suspicion, there ought to be, and in the court's judgment there is, no rule of law which prevents the return of a verdict according to such finding.

A study of the precedents will develop some confusion in the statement of rules governing the weight and effect to be given to expert testimony; but the reasonable rule, applicable at least to the great majority of cases, would seem to be that expert testimony is to be given consideration like all other testimony which the court allows to go to the jury, and accorded such weight as, in view of all the evidence of every kind and nature and its reasonableness and the apparent candor and competency of the witnesses, in fairness demand. All this is but another way of stating the elementary doctrine that the jury is to give the evidence, and all of it, full and fair consideration, and therefrom draw the conclusion which the judgments and consciences of the jurors approve as just.

Lastly, the court holds erroneous an instruction allowing the jury (1) to pass on the materiality of a false assumption of facts in a hypothetical question to an expert, (2) to determine whether a false assumption of a material fact is of such a character as to impair or destroy the value of the expert opinion based on it, and (3) to accord some weight to an opinion based on an assumption which is wholly or partially incorrect in its recital of facts. The materiality of the facts is a matter for the court alone, and the jury is bound to assume that any fact or circumstances allowed in evidence by the trial court is material and entitled to consideration.

Again, a hypothetical question embracing a series of assumed facts is one complete structure, and the court and jury are required to assume that every component part or element therein is considered by the expert in reaching the opinion which he gives in answer thereto. It is not for the court or jury to say that any one of the assumed facts was disregarded or ignored by the witness in forming his opinion, and therefore, if in deliberating on its verdict the jury finds that one or more of the assumptions indulged in by counsel in framing the question have not been established, the testimony based thereon should be wholly discarded; it has not even "little weight."

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 21.

1 *Case of Facial Paralysis. C. G. Cumston, Boston.
2 *Metabolism During Inanition. F. G. Benedict, Middletown, Conn.
3 *Advantages and Limitations of the Roentgen Ray in Treatment of Surgical Tuberculosis. H. K. Pancoast, Philadelphia.
4 *The Natural Course of Disease. A. McPhedran, Toronto.
5 *Case of Septic Meningoencephalitis or Cerebritis. B. H. Potts, Philadelphia.
6 *Nephroptosis. J. Ullman, Buffalo.
7 Juvenile Paresis. M. J. Karpas, New York.
8 *Effects of Urinary Preservatives on Urinary Analysis. W. H. Welker, New York.

1. **Facial Paralysis.**—Cumston reports the case of a man in whom paralysis of the left facial nerve followed an operation for mastoid trouble. There was evident reaction of degeneration, but, it was hoped, not so pronounced but that improvement might follow an anastomosis between the facial and hypoglossus. The operation was performed, with the result that at the end of two months after operation there was present a facial paresis instead of paralysis, more particularly evident in the upper branches of the facial nerve. At the end of nine months speech was nearly perfect, the other conditions remaining about as at the end of two months. The question: When should surgical interference take place? is somewhat difficult to answer. Immediately after injury there is more likelihood of a good result. But, on the other hand, it is by no means uncommon for cases of apparently hopeless facial paralysis to clear up completely without any assistance; Cumston concludes, therefore, that operation should be undertaken only some months after the appearance of the affliction if electrical treatment gives no result and the paralysis has become definitely established. In cases of central origin there is more room for doubt, as it is impossible from the proximity of the various motor nuclei in the bulb to say whether any particular nucleus is not already or will not soon be involved, thus rendering anastomosis with the nerve coming from it useless. The occurrence of a supplementary paralysis in the territory of the spinal or hypoglossus nerve selected will necessarily add to inconveniences already present, but these may be avoided by lateral implantation, with just as good results as by end-to-end anastomosis. He considers the physiology and anatomy of the nerves in this regard and holds lateral implantation to be perfectly logical, while clinically results have been about equally good with those of end-to-end anastomosis. As to the choice of the nerve, he prefers the hypoglossus—with which education will be easier—as more logical.

2. **Metabolism During Inanition.**—Benedict reports results of a series of experiments with a fasting man, at Wesleyan University, Middletown, in which the four important factors, carbon dioxid and water elimination, oxygen consumption and heat production, were measured, along with a more or less elaborate study of the urine. He describes the apparatus used in these experiments and goes in detail into their results. A professional masseur who had frequently fasted in private was the subject. The body weight during inanition showed a daily loss varying from 44 grams to 1.7 kilograms. The body temperature in general remained practically constant during fasting, with a smaller amplitude of the curve than is commonly the case with men consuming food even under like conditions of muscular activity. The pulse rate, as the fast progressed, showed a distinct tendency to fall, but there was a marked increase on the ingestion of food, even in small quantities. The blood examination showed: 1. A progressive average fall in the number of erythrocytes with the recuperation following. 2. A corresponding diminution in the percentage of hemoglobin. 3. A relative progressive fall in the percentage of leucocytes in the prolonged fast, but no remarkable effect of fasting on the relative percentages of the various types of leucocytes. 4. A high percentage of polymorphonuclear leucocytes during the fasts explained by the relative leucocytosis. Strength tests showed a noticeable falling off, when determined by the Tiemann dynamometer, but strength rapidly returned with re-

sumption of food. Subjective impressions, the mental attitude of the subjects, determine in large measure their ability to withstand the fast. It was found impossible to isolate, with any degree of accuracy, feces that could be properly designated fasting feces. In regard to the urine, the nitrogen output varied considerably, from 5.8 grams on the first day of one experiment to 15 grams on the third day of another experiment. The output was rarely below 10.5 grams *per diem*. Of special significance is the fact that the nitrogen excretion on the second day was, on the whole, much greater than that on the first. Of great significance is the fact that, while the quantities of preformed kreatin increased as the fast progressed, the total kreatinin remained singularly constant. For the first two days the uniformity in carbon elimination was striking; as the fast progressed there was a rather persistent decrease in the output of carbon dioxid.

3. **X-Ray in Surgical Tuberculosis.**—Pancoast considers the therapeutic action of the *x*-ray—first defining the significance of the term "cure" and considering spontaneous cures—and the effect of other curative measures in lupus vulgaris, ulcers, tuberculous sinuses, adenitis, laryngitis, pulmonary tuberculosis, peritonitis, tuberculosis of bones and joints, tenosynovitis, cystitis and orchitis, and sums up his conclusions in the following statement: Clinical results, the evidences of pathologic and microscopic examinations, and the experimental investigations made in connection with the *x*-ray in the treatment of tuberculosis, all show proof that it is an agent capable of sufficiently favorable influence over the manifestations of this disease to warrant its recognition as a rational and efficient means of treating many of the local lesions. The *x*-ray must, however, with the possible but not advisable exception of lupus, always be used either as an adjunct to other forms of treatment or in connection with them.

4. **Natural Course of Disease.**—McPhedran insists on the importance of the study of the natural course of disease, and cites instances of errors due to the absence of that kind of knowledge, especially in relation to pernicious anemia, typhoid, cardiac disease in children, neuropathic cases and tuberculosis. With regard to the charge that medicine is not an exact science, he asks what science is entitled to the designation; all are liable to err, and all depend to some extent on other sciences for their foundation. No exception, however, can be taken to such a charge against the practice of medicine, for the human organism is too unstable to justify us in hoping for more than approximate results. Empirical knowledge, therefore, must come to the aid of rational therapeutics and empirical knowledge depends largely on an accurate knowledge of the natural or uninfluenced course of disease. Therefore, the introduction of laboratory methods ought not to lessen the making of careful clinical records. He suggests that careful records be made of all patients who are under sufficiently close observation to permit of this being done. This must be particularly the case in hospitals, and there accurate clinical records can be obtained by improving the system of medical education, by placing much of the clerical work on the medical students, who on this continent get too much instruction and too little work. For the quiz system must be substituted personal observation guided by good judgment.

5. **Septic Meningoencephalitis.**—Potts describes a case of septic meningoencephalitis, of which an unusual feature, and one throwing considerable doubt on the diagnosis, was the duration of the condition without pus formation, even with the presence of suppuration in the ears and mastoids. But the findings at autopsy bore out the diagnosis of meningoencephalitis, septic in origin, and doubtless superinduced by alcoholic excesses.

6. **Nephroptosis.**—Ullman, in a consideration of cases of nephroptosis, expresses incidentally the opinion that there is a ptosic constitution or hereditary predisposition. These are the patients in whom Stiller finds the movable tenth rib. These patients are atonic, have weak muscles and a long thorax. They are the slender, narrow-waisted women, and nephroptosis, if found in such, can be accounted for only on an anatomic basis. When the kidney is not fixed, when no hydronephrosis or abscess formation exists, he approves of the kidney being replaced and being held in position by a properly fitting binder made of knitted silk or cloth, secured by perineal straps and having a kidney pad so shaped as to make pressure upward, backward and toward the right (inward?), so as to push the kidney to its former position. The pad should be soft but firm, its greatest length three inches, greatest width two and one-half inches; the upper border should be thin and concave, the lower border thick and convex. Most of the abdominal supporters on the market are too clumsy, he asserts, and the pads too large. In many cases, constitutional treatment is required. A change of climate is desirable when the nervous system is affected, and massage and hydrotherapy must not be forgotten.

8. **Urinary Preservatives.**—For the ordinary preservation of urine, thymol is serviceable, but Welker finds that it destroys the usefulness of the iodoform test for acetone.

Medical Record, New York.

September 21.

9 *Operative Treatment of Fractures Involving the Elbow Joint. C. P. Flint, New York.
10 *Administration of Proteids in Tuberculosis. G. H. Krall, Lansdowne, Pa.
11 Advantages and Disadvantages of Simple Extraction of Cataract. E. B. Coburn, New York.
12 *The Hepatic Functions, Their Pathology and Treatment. H. Richardson, Baltimore.
13 Case of Very Large Dilatation of the Cecum. T. W. Harvey, Orange, N. J.

9. **Fractures Involving the Elbow Joint.**—Flint describes in detail the operative interference in the case of fractures of the olecranon, the external and internal condyle, supracondyloid fracture, di-condylar and comminuted breaks and separation of the epiphyses, and reports a series of ten cases. In children, waiting is the best policy. In general he says that in the treatment of all operative fractures there is one thing to be remembered, namely, that the operation is only half of the treatment, the other half being careful, prolonged orthopedic after-treatment, and that the first without the second is apt to result in failure. Early massage, early and frequent passive motion, and discarding of all fixing apparatus just as soon as the conditions of the individual case permit, should be the aim of postoperative care. Passive motions must not be carried beyond the point of pain, otherwise a strain is produced.

10. **Proteids in Tuberculosis.**—Krall states that the tendency of recent scientific observation based on more thorough methods leads us to believe that the ingestion of excessive amounts of proteid in the treatment of tuberculosis is not only unjustifiable, but harmful. While we should fully realize the absolute necessity and great value of the proteid content of the daily ration of tuberculous patients, we should endeavor to keep this amount within the bounds of purely physiologic demands and not administer a single gram over this quantity, as determined by the most careful study of the patient's nutritional equilibrium. For every particle of excessive proteid matter given will unquestionably not only interfere with the favorable termination of the disease, but will be productive of pathologic conditions which we have been prone heretofore to charge to the account of the tubercle bacilli. It is not beyond reason to believe that there are some tuberculosis patients who have died of renal involvement, cardiac insufficiency, toxemia and other pathologic conditions whose life might have been prolonged through the proper equilibrium of proteid metabolism.

12. **The Hepatic Function.**—Richardson describes in general the functions of the liver, especially the antitoxic function. It eliminates urea, undertakes the sulphoconjugations of the phenols, transforms alkaloids, rendering them non-poisonous, has a depuratory office, eliminating metallic poisons and coloring matter, removes toxins and insoluble substances, while the liver cells possess greater phagocytic powers than the leucocytes. The treatment of autointoxication is the real problem to be solved, few clinicians doubting that it is an important factor in disease. Nature's method is to increase the quantity of bile, so that, after flushing out the intestines by calomel and magnesium sulphate, Richardson recommends, in imitation of Nature, the administration by the mouth of sodium glycocholate mass. The increased amount of bile salt dissolves the accumulated impurities in the liver, stimulates the liver cells, purifies the blood, and enables it to oxidize and remove the end-products of metabolism from other organs. The diet

in hepatic disease, and especially in autointoxication, is of great importance; it should be as light as possible, milk being the best antiseptic. Small amounts of proteids and larger ones of well-cooked carbohydrates are the best. Rest is the best medicine for any deranged physiologic function, and starvation is rest for the liver. So far, intestinal antiseptics generally have proved inefficient; chemical antidotes have not been found for the organic toxins, which are an ever-present menace to health. Our greatest hopes rest on the action of oxidizing ferments. He considers brewer's yeast, in the form of cheese or weiss beer, a good antiseptic.

Boston Medical and Surgical Journal.

September 19.

14 *Suppurating Supernumerary Ureter Opening into the Prostatic Urethra. A. L. Chute, Boston.
15 *Recent Advances in the Knowledge of Tuberculosis in Early Life. C. H. Dunn, Boston.
16 *Unusual Case of Ulcer of the Stomach. J. M. T. Finney and J. Friedenwald, Baltimore.
17 Two Cases of Brain Abscess. F. E. Kittredge, Nashua, N. H.
18 General Lymphosarcoma Accentuated in the Pharynx. F. P. Emerson, Boston.

14. Supernumerary Ureter.—Chute reports a case presenting two abnormalities, a double ureter, and an abnormal opening of the lower end of the ureter. He gives a careful study of the literature of the subject and discusses the symptoms.

15. Tuberculosis in Early Life.—Dunn considers the nature of the tuberculous process in early life, the sources of infection, portals of entry, of which he considers the lungs, the tonsils and nasopharynx, and the intestines the commonest, the diagnosis of tuberculosis in early life, and immunity.

16. Ulcer of the Stomach.—Finney and Friedenwald report an unusual case of ulcer of the stomach, in which the symptoms present were by no means distinctive, and even on direct inspection the simple ulcer could not be differentiated from a carcinoma. He considers it evident that all doubtful indurated ulcerations in the stomach should be treated as carcinomatous, since in many cases even by inspection it is difficult to distinguish them, and, moreover, carcinoma is apt to develop on the indurated border of an ulcer.

The Lancet-Clinic, Cincinnati.

September 21.

19 *Case of Puerperal Fever. E. W. Mitchell, Cincinnati.
20 Drugs, Doctors and Druggists. E. S. McKee, Cincinnati.
21 The Alkaloid. J. Burke, Manitowoc, Wis.

19. Puerperal Fever.—Mitchell reports very carefully a case of puerperal fever, and states that the one therapeutic agent which had the most obvious beneficent effect was veratrum viride. His observations in this case, as well as in others, lead him to believe that this drug has in some way an effect in aiding the organism to overcome septic infection, perhaps by its action on the liver. The good effect of the intrauterine douche in this case was undoubted. No conclusions can be reached as to the efficacy of antistreptococcic serum from this case, but, since it can do no harm and may in some cases save life, Mitchell considers it a duty to give it in every case.

St. Louis Medical Review, St. Louis.

August.

22 *The Teaching of Clinical Medicine. W. S. Thayer, Baltimore.
23 Surgery of the Ureter. B. M. Ricketts, Cincinnati.
24 Electrotherapy. J. W. Wainwright, New York.
25 *Headache and Eyestrain. F. P. Parker, St. Louis.
26 *Use of Sulphosalicylic Acid in Testing for Albumin in Urine. W. P. Elmer, St. Louis.
27 *Treatment of Diphtheria with Refined and Concentrated Antitoxin. A. Habermaas, St. Louis.

22. Teaching of Clinical Medicine.—Thayer details the method of teaching clinical medicine adopted at Johns Hopkins, and speaks highly of the practice of clinical clerking, as employed in England. Fourth-year students in their capacity of clinical clerks form simply an additional force of trained assistants. The advantage is as great to the patient and the physician as it is to the student himself. Thayer further pleads for the teaching of medicine from a broader standpoint. Medicine is a subject to be approached by men, not by boys, and it should be taught by university methods. The student of medicine should have reached a period of development at which he is capable of deciding how and under what conditions he can do his best and most efficient work, and he should have freedom in the selection of his courses and of the time which he chooses to give to them. He should not be bound down to schedules prescribed for a large class, but should be able to present himself for his final examinations when he is ready. The disadvantage of the class system is shown by the fact that if a student finds some study of special interest, for instance anatomy, and is drawn into a piece of original work of real importance, he can pursue this only by neglecting another equally important branch, or by dropping from his class and losing a whole year's work. If the course were planned on a semestral or trimestral basis, the student would be free to spend as much or as little time, within prescribed limits, in work, as he would, and present himself for his examination at the end of any semester or trimester, according to his own best judgment. Such a system would also be a step toward the introduction of extramural teaching, when any good man controlling clinical opportunities or a laboratory might have an opportunity to offer the advantages thereof to the students of his community. The University of Chicago, Thayer states, is already in advance of other schools in this respect. Teaching there is on a trimestral basis, the class system is practically abolished, examinations are held four times a year.

25. Headache and Eyestrain.—In considering this subject, Parker draws special attention to the point that he does not necessarily mean that there must be a high degree of retraction error to produce headache. The cases that tax diagnostic ability most, and give most trouble to the patient, are those of a low degree, in which the affection is not serious enough to produce perceptibly poor vision, but nevertheless has a tendency to irritate and keep the muscles in a state of excitement when in the act of accommodating.

26. Sulphosalicylic Acid as a Test for Albumin.—Elmer has found that under proper conditions sulphosalicylic acid is a reliable and delicate test for albumin. To 5 or 6 c.c. of clear urine in the test tube as much of the powder as will lie on the point of an ordinary pocket knife or about 1 c.c. of 50 per cent. solution in distilled water is added to produce thorough acidity, which is most important. Excess need not be avoided. In the presence of albumin, the urine becomes turbid or a white precipitate forms, which does not disappear on heating. Albumoses are also precipitated, but the precipitate disappears on warming, to reappear when the solution is cool. This test will detect about one part of albumin in about 20,000 parts of urine; moreover, no color change is developed to obscure mere traces of albumin.

27. Refined and Concentrated Antitoxin.—Habermaas considers that the really deleterious effects of the serum are in most instances overlooked, and the usual sequelæ of diphtheria itself are very often wrongly attributed to the use of antitoxin. Most of the unpleasant manifestations following the use of antidiphtheritic serum are due largely, if not entirely, to the horse serum. He describes the method of concentrating and refining antitoxin, with a view of removing all non-proteid substances, as well as the albumins and nucleoproteids and some of the inert globulins. The refined product occupies about one-half the bulk of the original serum. He summarizes the results of treatment in seventy-five consecutive cases. Its advantages are lessened bulk for the same antitoxic value, affording more rapid and less painful injection with less local reaction, rashes being fewer and less severe.

Journal of Medical Research, Boston.

Vol. VXI, No. 3, July.

28 Further Studies on Hypersusceptibility and Immunity. M. J. Rosenau and J. F. Anderson, Washington, D. C.
29 Effects of Experimental Injuries of the Pancreas. I. Levin.
30 Normal Pulsations within the Esophagus. C. I. Young and A. W. Hewlett, San Francisco.
31 Studies in Mammalian Tubercle Bacilli. T. Smith and H. R. Brown, Boston.
32 Calcium Metabolism in Case of Myositis Ossificans. A. E. Austin.
33 Fat Embolism. G. S. Graham, Boston.
34 Case of Multiple Primary Carcinoma. G. McConnell, St. Louis.
35 Congenital Rhabdomyoma of the Heart. S. B. Wolbach, Boston.
36 *Phagocytosis in Relation to the Opsonic Index. R. E. Walker, Ann Arbor, Mich.
37 New Pathogenic Microorganism of the Conjunctival Sac. H. McKee, Montreal, Canada.

36. Phagocytosis.—Walker insists that lack of knowledge of the principles governing phagocytosis causes more inconsistent and erroneous opsonic findings than failure to follow the

technical rules so frequently published by various workers. The method usually employed, of diluting the bacterial suspensions to the degree required for reducing the phagocytic index to an average that can be readily and quickly counted, can not give any true indication of the relative opsonic value of the sera tested. If the bacterial suspension contains fewer germs than the opsonin of either serum is able to sensitize, the result should be that each will sensitize all the bacteria present and equal phagocytic indices will be observed. In such a case, the opsonic index obtained will be unity, regardless of the real difference between the sera. If all the opsonin of the weaker serum finds bacterial attachment, but if too few bacteria are introduced to combine with all the opsonin in the stronger serum, an error, depending on the quantity of opsonin not combined, will result. The method of the technic recommended by Walker is to dilute the sera from ten to twenty-five times in one of the tubes described by Wright for making higher dilutions at a single step and to use the diluted serum with a very opaque suspension of staphylococci. The principle of using enough bacteria to produce the maximum phagocytosis of which the serum is capable applies to all bacteria that are rapidly sensitized. For species for which but little opsonin exists in the blood, e. g., typhoid bacillus, comparatively fewer germs are necessary and the serum need not be diluted.

Ohio State Medical Journal, Columbus.

September 15.

38 *President's Address to the Ohio State Medical Association, 1907. R. R. McClellan, Xenia.
39 *Rarity of Gastric Disease. R. C. Cabot, Boston.
40 *How Can Doctors and Laymen Best Cooperate in Protecting the Public Health and Inculcating Higher Ideals? C. S. Andrews, New York.
41 *Interdependence of Diseases of the Eye, Ear, Nose and Throat. J. E. Weeks, New York.
42 *Doses of Diet and Drugs. A. Jacobi, New York.
43 *The Enlarged Field of Opsonic or Bacterial Therapy. A. P. Ohlmacher, Detroit.
44 Case of Habitual Dislocation of the Shoulder. H. A. Baldwin, Columbus.

38. Abstracted in THE JOURNAL, Sept. 21, 1907, page 1050.

39, 40, 41, 42. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1141.

43. Abstracted in THE JOURNAL, Sept. 28, 1907, page 1141.

California State Journal of Medicine, San Francisco.

August.

45 Settled and Unsettled Points in Dietetics. B. Reed, Los Angeles.
46 *Intensity of the Pulmonic Sound in Mitral Incompetence. W. W. Kerr, San Francisco.
47 *Results of Roentgenization in Superficial Malignancies. A. Soiland, Los Angeles.
48 Roentgen Rays as a Therapeutic Factor in Dermatology. D. Friedlander, San Francisco.
49 Acne Vulgaris and Its Treatment. R. E. Bering, Tulare.
50 *Control of Diphtheria in the Public School. A. R. Ward and M. Henderson.
51 Methods of Attacking Typhoid in San Francisco. H. A. Ryfkogel, San Francisco.
52 *Management of Placenta Prævia. A. B. Spalding, San Francisco.

46. The Pulmonic Sound in Mitral Incompetence.—After an examination of the physiology of cardiac action and blood pressure as bearing on statistics collected at Guy's Hospital, London, from all cases of hemoptysis occurring in valvular disease, Kerr considers that the clinical facts shown thereby can not fail to raise doubts as to the existence of any great increase in pulmonary blood pressure in cases of simple mitral incompetence, and that the physiologic conditions seem to furnish additional warrant for skepticism. There can not be any doubt that the pulmonary pressure is raised both in mitral stenosis and incompetence, and we are, therefore, compelled to ask why hemoptysis is so much more frequent in stenosis. There is this distinction, therefore, between the increased pulmonary tension of mitral incompetence and that of stenosis: The pressure is raised in both lesions during ventricular systole, but in the former it may be relieved immediately on the completion of the systole during the period of relaxation that takes place before the semilunar valves close, while in stenosis the increased pressure persists well into the diastole and hence in this latter condition the signs of high blood pressure in the pulmonary circulation are more marked. It is not disputed that in mitral incompetence the pulmonic sound frequently is louder than the aortic, but until middle life this is the normal state of affairs; furthermore, in cases of mitral incompetence the tendency is toward diminished intensity of the aortic sound on account of the smaller volume of blood propelled into the aorta and a consequent feebler recoil. We must, therefore, be careful to discriminate between an actual accentuation of the second sound and an apparent increase in its intensity, due to diminution of the aortic factor.

47. Roentgenization in Superficial Malignancies.—Soiland presents a series of photographs in thirteen cases, showing the results of *x*-ray treatment in superficial malignant disease, which, he says, prove conclusively that from a therapeutic standpoint the Roentgen rays are neither a travesty nor a quackery.

50. Control of Diphtheria in Schools.—Ward and Henderson detail the course adopted by them in the presence of an outbreak of diphtheria in Berkeley, Cal., and arrive at the following conclusions:

1. The epidemic that existed in the school was due to three factors—first, the existence of mild cases of diphtheria that, because of the lack of bacteriologic examination, went unrecognized as diphtheria; second, the insufficient length of quarantine in clinical cases; and, third, germ cases following exposure and never showing clinical symptoms.
2. Our attempts to isolate all infected children had no effect on the course of the epidemic, so long as we made throat cultures alone. When we took both nose and throat cultures, and quarantined all the children showing positive cultures, the epidemic stopped.
3. It is extremely important, in times of danger from diphtheria, that every sore throat, no matter how far it may seem to be from diphtheria, be regarded as suspicious, until a bacteriologic examination has proved it to be otherwise.
4. It is such a frequent occurrence to have a positive follow a negative culture, that at least two negatives should be demanded for release from quarantine. No case should be released on clinical signs alone.
5. It is possible to stop epidemic diphtheria in a public school by regulation of attendance by bacteriologic findings.

52. Placenta Prævia.—Spalding believes that active measures should be instituted to terminate pregnancy or hasten labor as soon as the diagnosis of placenta prævia is made. In the early months, abortion is indicated; after the child is viable, Cesarean section may be done in rare cases; but, as a general rule, the best results will be obtained by dilating the cervix with gauze or with a rubber bag and doing version and extraction when other means of stopping the hemorrhage fail, or when the cervix is fully dilated.

The American Journal of Orthopedic Surgery, Philadelphia.

July.

53 *The Question of Balance. A. G. Cook.
54 *Chronic Joint Disease Treated by Tuberculin Injections by Wright's Method. J. Lidbon, Chicago.
55 Treatment of Joint Tuberculosis with Marmorek's Serum. A. H. Freiberg, Cincinnati.
56 Study of Vaccines and the Opsonic Index in Relation to Orthopedic Surgery. R. T. Taylor and E. A. Knorr, Baltimore.
57 Bone Regeneration and Features of Osteomyelitis. A. R. Colvin.
58 Relation of Albuminous Putrefaction in the Intestines to Arthritis Deformans. C. R. Andrews and M. Hoke, Atlanta, Ga.
59 *Treatment of Tuberculous Abscesses. J. K. Young, Philadelphia.
60 Series of Operations on the Knee. R. R. Fitch, Rochester.
61 *Iodin Treatment of Bone Infections. S. L. McCurdy, Pittsburg.
62 *Relaxation of the Sacroiliac Synchondroses. J. Dunlop, Washington, D. C.

53. Balance.—Cook points out the fallacy of considering troubles of the feet a purely local condition, and subjecting them to routine treatment with a pad or a foot plate and exercises, whereas the question of balance is all important. A careful study of the patient as a whole is required, how he stands, walks, runs, carries himself; his occupation; the state of his general health and the development of his muscles. He describes the principles of fitting shoes in reference to balance.

54. Tuberculin Injections in Chronic Joint Diseases.—Ridlon sums up his preliminary report as follows:

A low tuberculo-opsonic index with local joint symptoms, may be accepted as evidence of joint tuberculosis. But a practically normal tuberculo-opsonic index, together with local joint symptoms, neither proves nor disproves joint tuberculosis.

When the diagnosis of joint tuberculosis has been made a high tuberculo-opsonic index should be maintained, if possible.

With a high tuberculo-opsonic index an operation for the removal of all or part of the local disease may be undertaken; not so with a low index.

If use of the diseased joint lowers the opsonic index, the joint must be protected; if it does not lower the index, it may be permitted; if it raises the index it should be insisted on.

General elevation of the temperature following a tubercle injection indicates too large a dose. A persistent lowering of the index during treatment by tubercle injection indicates that the injection has been given at the wrong time, during what Wright calls the negative phase, instead of during the positive phase.

He believes the tubercle injection treatment, when guided by the tuberculo-opsonic index, to be a most promising step in advance in the treatment of tuberculous joint disease.

59. **Tuberculous Abscesses.**—As a result of 26 reported examinations of tuberculous abscesses, Young has come to the following conclusions:

1. Tuberculous abscesses will frequently disappear under thorough protective treatment and will not require an incision.
2. Exploratory puncture of the joints should be made early, and of the abscess preceding any operation, for diagnostic purposes.
3. The method of operation should be decided on from the results of the laboratory examinations.
4. When the abscess is reported sterile it should be thoroughly incised, curetted and closed without drainage, under the most careful aseptic precautions.
5. When the abscess report shows large numbers of tubercle bacilli, the incision should be cauterized before the sac is incised, with thorough curettage, partial closure, and drainage for not over 48 hours, the strictest asepsis being maintained.
6. When the cultures show mixed infection the abscess should be incised, thoroughly curetted, washed with a formalin solution, partially closed aseptically, and drained for not over 48 hours. If the clinical symptoms and *x-ray* show an accessible focus of disease this should be thoroughly removed at the same time the abscess is incised, by curettage, erasion, partial closure, and drainage for a short period.
7. Sinuses should be taken from sinuses and if sterile the sinus should be treated by absolute, thorough, and complete immobilization of the tuberculous area, with partial closure, and aseptic dressings.
8. If the cultures taken from the sinuses show tubercle bacilli the part should be thoroughly curetted, immobilized, and treated with a saturated solution of methylene blue.
9. If the cultures from the sinuses show mixed infection they should be thoroughly curetted under strict aseptic precautions, the diseased part should be immobilized, and the general condition should be treated by serumtherapy.

61. **Iodin Treatment of Bone Infections.**—McCurdy concludes as follows:

1. Blood-clot organization is typified in the repair of the maxillary process after the extraction of teeth. Here we may extract many teeth, leaving holes of considerable size which are immediately filled in with blood, and even the patient never hears of them again. Why not larger cavities?
2. All infected cavities, either in the central canal or surface of bone, should be immediately sterilized with tincture of iodin (U. S. P.).
3. When wounds are effectually disinfected, they may be expected to close entirely in from four to five weeks, regardless of their size.
4. Old sinuses injected with tincture of iodin, using a syringe with a nozzle long enough to reach to the bottom of the sinus, will in many instances close without operation.
5. Mild toxicologic symptoms may be noticed in twenty-four hours from sinus injection, but the constitutional effect is beneficial, and in one instance controlling for a time disease of the lungs.
6. The syringe used by dentists for cleaning patients' mouths has served me best.
7. Iodin should not be used in joints that have normal synovial membranes, but pure alcohol should be substituted.
8. The practice of packing sterile cavities with gauze at every dressing is, I think, wrong, since it breaks down and destroys blood clots and valuable plastic material thrown out by Nature to rebuild damaged tissues.

62. **Relaxation of the Sacroiliac Synchondroses.**—Dunlop considers that greater attention should be paid to this condition, the importance of the recognition of which is shown by the referred pains and headaches in the cases quoted, symptoms which have not heretofore been recognized. There is probably no examination more easily made, and the possibility of sacroiliac relaxation or strain should be constantly borne in mind.

The Laryngoscope, St. Louis.

August.

63 *Hysteria of the Ear. C. R. Holmes, Cincinnati.
64 Tooth Cysts. T. J. Gallagher, Denver.
65 Obliteration of the Accessory Nasal Sinuses. A. R. Solenberger, Colorado Springs.
66 Radical Treatment of Chronic Diseases of the Antrum. R. B. Canfield, Ann Arbor, Mich.
67 Complete Removal of Faucial Tonsils. O. A. Griffin, Ann Arbor.
68 Tubercular Affections of the Faucial Tonsils. C. M. Robertson, Chicago.
69 Sarcoma of the Nose. W. C. Braislin, Brooklyn, N. Y.
70 Sinus Thrombosis and Necrosis of the Horizontal Semicircular and Facial Canals. L. Ostrom, Rock Island, Ill.
71 Case of Acute Mastoiditis Complicated by Extensive Destruction of the Esophagus. J. O. McReynolds, Dallas, Texas.
72 Case of Spasm of the Esophagus. J. W. Farlow, Boston.
73 Intranasal Drainage of the Frontal Sinus. E. F. Ingals, Chicago.
74 Improved Nose, Throat and Ear Instruments. E. Pynchon, Chicago.
75 Laryngeal Medicator for the Patient's Use. S. Yankhauer, New York.

63. **Hysteria of the Ear.**—Holmes classifies aural hysteria and discusses the various classes in detail as follows:

1. Cases in which there is no evidence of any disease of the ear.
2. Cases in which a normal or abnormal ear is the seat of hysterogenic zones—as where certain sounds produce reflex phenomena in distant parts of the body.
3. Cases in which there are abnormal appearances in the ear which can be explained, and which the subsequent history of the case demonstrates as, temporary nervous and vascular phenomena (e. g., angioneurotic edematous patches, changes in color, etc.).
4. Cases in which there are slight pathologic changes in the ear—real, but insufficient or not of a character to account for the symptoms complained of.
5. Cases in which the hysteric inflicts more or less damage on the ear for the purpose of exciting sympathy or to induce the performance of an operation by the aural surgeon.

He takes the occasion to protest against undertaking any operation on the ears of these patients for attempting to "satisfy their minds." Even if alleged to be successful, it does not restore their will power and mental resistance, but rather confirms the patient's belief of the reality of the hysterical symptoms and paves the way for fresh delusions.

Chicago Medical Recorder.

September.

76 Rational Treatment of Acute Gonorrheal Urethritis. B. H. Breakstone, Chicago.
77 Septic Infections About the Septum. C. J. Drueck, Chicago.
78 Alcoholic Multiple Neuritis. J. Grinker, Chicago.
79 Playgrounds in the Prevention of Tuberculosis. H. B. Favill, Chicago.
80 Case of Chorea. J. W. Van Dersliee, Chicago.
81 Hyoscin-Morphin-Cactin Anesthesia. W. C. Abbott, Chicago.
82 Aseptic Floor and Wall Coverings. C. J. Fox, Washington, D. C.

Cleveland Medical Journal.

September.

83 A Word or Two, from an Ex-journalist. S. W. Kelley, Cleveland.
84 *Indications for Therapeutic Uterine Curettage. R. E. Skeel, Cleveland.

84. **Uterine Curettage.**—Skeel sums up his paper with the following conclusions:

Obstetrically curettage has a well-defined use in the removal of the products of early conception or the remnants of incomplete abortion.

Occasionally it may be useful after later miscarriages or even full term labor to remove material out of reach of the finger.

At the outset of puerperal infection it may do harm but usually does good. Later it is positively contraindicated.

Gynecologically it has one well-defined use in so-called hemorrhagic or polypoid endometritis manifested clinically by bleeding.

Its wide vogue in other disorders is not due to benefits derived from the operation but from the associated change in environment and suggestion.

Large numbers of women who are now subjected to this so-called minor operation are medical not surgical patients.

Archives of Pediatrics, New York.

August.

85 *Pseudomasturbation in Infants. R. K. Rachford, Cincinnati.
86 *Symptoms of Status Lymphaticus in Infants and Young Children. J. Howland, New York.
87 Afebrile Pneumonia. A. L. Goodman, New York.
88 Enlargement of Epitrochlear and Other Lymph Nodes in Infants. A. F. Hess, New York.
89 Anencephalus. C. H. Lefcowitch, Philadelphia.

85. **Pseudomasturbation in Infants.**—Rachford deals, under this title, with the condition commonly known as thigh friction. He considers that the close anatomic and physiologic relationship that exists between the bladder, urethra, rectum and external genital organs of the infant is the most important explanation of the fact that the external genital organs of the infant a few months after birth are capable of responding to reflex excitation originating in any of the above-named parts. The condition is more common in female than in male infants, which he considers due to the comparatively greater exposure of female infants to reflex excitation of the nervous mechanism involved. The habit that is formed becomes in time one of its most potent etiologic factors; environment also—evil companions, bad hygienic surroundings, unscrupulous nurses—constitutes a factor. Heredity is an all-important predisposing factor—neuroses, gout, etc. Diseases that cause a rapid deterioration in general health and malnutrition are also causative factors. It appears to be more common in the children of the well-to-do. Irritation of the nervous mechanism controlling the sexual organs, rectal conditions, such as thread worms, acidity of the urine, and, in the male, adherent prepuce are direct causes. The prognosis is good, the tendency is toward spontaneous recovery, there is no connection between pseudomasturbation and true masturbation in later life, and the author considers that there is no relation between pseudo-

masturbation and epilepsy. Treatment consists in interruption of the habit as soon as possible; attention to the genital toilet; a sitting posture as much as possible; mild punishment in children over 2 years of age, moral suasion with older children; in some cases forcible restraint during sleep. Potassium bromid and belladonna given at bedtime are often useful, and particular attention must be paid to nutrition. A daily bath followed by a cold douche has been used with success. Fifty-two cases are reported.

86. **Status Lymphaticus.**—Howland has had an opportunity during the past eight years to observe more than twenty-five cases of status lymphaticus, many of them clinically as well as postmortem. The relation of enlargement of the thymus gland with a hyperplastic condition of the lymphoid tissue throughout the body, enlargement of the spleen, Peyer's patches and the solitary follicles, is indicative of a condition which often terminates in sudden death from apparently inadequate cause. The thymus gland, according to Howland, may be considered distinctly pathologic when it weighs more than ten grams. The symptoms are manifold. In one class, the condition manifests itself by sudden death, with or without some trifling shock, such as the beginning of anesthesia, or the giving of antitoxin. There are practically no symptoms. Another class presents characteristic symptoms. A sudden illness, possibly vomiting or slight diarrhea, though digestive symptoms are not prominent. The respiratory symptoms are most marked. Rapid gasping respiration with cyanosis, sometimes incessant cough, the dyspnea being out of all proportion to the physical signs. Unconsciousness and convulsions often occur. The pulse becomes rapid and feeble, the temperature runs very high—from 104 to 107 F. In yet another class are cases that run a prolonged course with a gradual onset. Such cases, even when fully developed, are not distinctive. Again, we come on extreme dyspnea and cyanosis, without any physical conditions to explain them. In these cases the temperature is usually low—from 100 to 102 F.—convulsions may occur, particularly at the close, death often taking place in the convulsions. In both these classes of cases Howland gives reasons for the conviction that the dyspnea is not obstructive. There are infrequent cases in which the enlarged thymus causes obstructive dyspnea; in these cases the drawing up of this gland out of the mediastinum or the removal of the whole or part of it often removes the symptoms.

The Post-Graduate, New York.

September.

90 Pathology of the Cornea. H. T. Brooks and E. L. Oatman, New York.
91 Important Changes in the Blood and Urine in Appendicitis. A. Pisani, New York.
92 Diagnosis of Carcinoma of the Stomach. A. F. Chace, New York.
93 Case of Motor Aphasia. W. A. Weightman, New York.
94 *Prostatectomy by Special Technic. F. Cabot, New York.
95 Relation of the Genitourinary Clinic to Sanitary and Moral Prophylaxis. W. G. Eckstein, New York.

94. **Prostatectomy.**—The following are Cabot's conclusions drawn from his own experience:

1. Never remove a prostate if there is any question of the patient's fitness to resist the shock. Do a preliminary drainage, suprapubic, and await developments.

2. Employ local anesthesia for the preliminary cystotomy when possible.

3. Never use ether for the prostatic enucleation.

4. Be sure that the bladder is completely drained after the operation and that the patient leaves his bed in a day or two for his meals.

5. Choice of method: Perineal route in 20 per cent. Suprapubic at one sitting, 40 per cent. Lilienthal's interval operation, 40 per cent.

6. Perineal route suitable for simple uncomplicated small prostatic hypertrophy.

7. Use the suprapubic route in all severe, complicated prostatic disease, and in about one-half of these cases the two stage method of Lilienthal should be employed.

8. Cystoscopy is of some value in prostatic disease, but prolonged efforts to use it should not be employed.

Vermont Medical Monthly, Burlington.

August.

96 Medical Education in America at the Present Day. J. B. Wheeler, Burlington.
97 Preliminary Education. H. C. Tinkham, Burlington.
98 Postgraduate Study in the United States. G. R. Pisek, New York.
99 Postgraduate Work Abroad. J. McCrae, Montreal.
100 Professional Paradoxes or an Eminent Physician Catechized. A. C. Jacobson, Brooklyn.
101 Differential Diagnosis of Peptic Ulcer, Cholelithiasis and Pancreatitis. C. F. Ball, Rutland.

Western Canada Medical Journal, Winnipeg.

August.

102 Infant Mortality. W. G. Brock, Germiston, S. Africa.
103 Medical and Surgical Treatment of Acute and Chronic Appendicitis. W. Dow, Regina, Sask.
104 Syphilis Insontium. G. R. Peterson, Saskatoon, Sask.

International Clinics, Philadelphia.

Vol. III, 1907.

105 Practical and Theoretical Considerations Concerning Dietetics. D. L. Edsall, Philadelphia.
106 Treatment of Pneumonia. A. Robin, Paris, France.
107 Mechanotherapy. J. W. Wainwright, New York.
108 Curability of Tuberculosis. E. S. Bullock, Silver City, N. M.
109 Blood Pressure in Tuberculosis. W. B. Stanton, Philadelphia.
110 Two Cases of Primary Carcinoma of the Liver. W. H. Porter, New York.
111 Acute Gastritis. D. Sommerville, London, England.
112 Salient Factors in the Estimation of Renal Disease. R. Wallace, Chattanooga, Tenn.
113 General Abdominal Enlargement, with Special Reference to Hepatic Cirrhosis. M. A. Brown, Cincinnati.
114 Inoculability of Tumors and Endemic Occurrence of Cancer. L. Loeb, Philadelphia.
115 Surgery of the Blood Vessels. J. E. Sweet, Philadelphia.
116 Inflammation of Gall Bladder and Gall Ducts. G. T. Vaughan, Washington, D. C.
117 Etiology and Treatment of Perforating Ulcer of the Foot. A. J. Hall, Washington, D. C.
118 Surgical Aspects of Tuberculosis. J. B. Roberts, Philadelphia.
119 Collargol in Puerperal Infections. E. Bowmaire, Paris, France.
120 Atopomenorrhea. F. K. Green and Q. W. Hunter, Louisville.
121 Conservative Perineal Prostatectomy for Chronic Prostatitis. H. H. Young, Baltimore.
122 Etiology and Experimental Study of Syphilis. F. P. Gay, Hawthorne, Mass.
123 Spermatic Insufficiency and Diastematic Insufficiency. M. Ancel, Lyons, and M. Bouin, Nancy, France.
124 Study of Ocular Birth Injury. E. Thomson and L. Buchanan, Glasgow, Scotland.
125 Extraction of Cataract in the Capsule. J. R. Williamson, Bhandara, India.
126 How to Turn Back the Upper Eyelid. R. Béal, Paris, France.
127 Polyneuritis Apparently Not Due to Alcohol, Arsenic or Any of the Ordinarily Recognized Causes. F. P. Weber, Hampstead, England.
128 Present Treatment of Hypertrichosis. L. Brocq, Paris.
129 Relation of Intracorpuscular Conjugation in the Malarial Plasmoda to Latent and Recurrent Infections. C. F. Craig, U. S. Army.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

September 7.

1 *Educational Number.

1. This issue of the *British Medical Journal* contains information regarding the regulations of the various medical schools, examining colleges, and universities of Great Britain, the medical education of women, post-graduate training in the United Kingdom, tropical medicine, preventive medicine, dental surgery, etc., and other matters of interest to the intending student of medicine.

The Lancet, London.

September 7.

2 *Peritonitis and Its Treatment. J. Berry.
3 *Acute Yellow Atrophy of the Liver Following Operation for Intestinal Obstruction. C. E. Campbell-Horsfall.
4 *Intussusception Caused by an Inverted Meckel's Diverticulum. L. A. Bidwell.
5 Pyemia Due to Influenza Bacillus with Multiple Arthritis and Meningitis. L. S. Dudgeon and J. E. Adams.
6 Changes Observed in Blood Count and in Opsonic Power in Man Undergoing Prolonged Fast. F. J. Charteris.
7 *Epidemic Cerebrospinal Fever. W. Wright.
8 Treatment of Cancer. L. Drage.
9 *Solubility of Air in Fats and Its Relation to Caisson Disease. H. M. Vernon.
10 Case of Self-Induced (?) Abortion. A. B. M. Thomson.
11 Case of Double Depressed Fracture of the Skull and Pneumothorax. W. H. Bowen.

2. **Peritonitis.**—Berry says that underlying the treatment of all forms of peritonitis there are certain broad principles that should guide us to the best possible treatment in the individual cases. The reason that inflammation of the peritoneum is so much more dangerous than inflammation of other organs or tissues is that the peritoneal cavity is a vast lymphatic space, from which absorption of toxins readily takes place. By peritonitis is meant the inflammation of the peritoneum produced by the presence of bacteria, either from the blood stream, as in the course of an acute septic lesion of some other part of the body, or by direct introduction from without as from a wound. In the majority of cases of acute appendicitis, the amount of poison that escapes is small and

can be dealt with by the peritoneum itself, which is the reason that most cases of acute or subacute appendicitis recover spontaneously. In the case of the perforation of a large hollow viscus like the stomach or cecum, however, perforation is rarely preceded by adhesive inflammation, so that there is frequently poured out a vast quantity of septic material, much greater when the perforation occurs during digestion. A sudden invasion of the peritoneal cavity by bacteria results in a rush of blood to the affected area. The abdominal viscera and the great omentum are engorged with blood, so that other parts of the body are greatly deprived of it. Berry lays special stress on this as an important factor in the cause of the shock and feeble rapid pulse often met with in peritonitis and states that the proper mode of treatment is to replenish the empty vessels by giving the patient plenty of fluid. In regard to the effusion of serous fluid into the peritoneal cavity, occurring in so many cases of acute peritonitis, Wright has shown that the bactericidal power of serous fluid diminishes in the immediate neighborhood of an affected area, and becomes exhausted. The letting out of this fluid by operation leads to the effusion of a further amount of fresh serum, and the destruction of more bacteria; hence the beneficial effect of drainage of inflamed areas. The beneficial effects of draining away the fluids in chronic tuberculous peritonitis are thus to be explained. He further points out that the effect of a dose of toxin on the opsonic power of the blood plasma is a lowering of the opsonic index—the induction of the negative phase. The addition of a traumatism at this stage means a further dose of toxin, so that the negative phase may be increased even to death. By waiting a few days, however, the opsonic index is greatly raised above normal, and operations can be performed with greater safety. As regards the question of the poison, Berry thinks that of late undue stress has been laid on the quality of the bacteria and too little on the quantity of poison in the case of a perforative appendicitis, and that it is on the quantity rather than on the quality that the severity of the attack depends, especially in peritonitis associated with appendicitis. In connection with acute appendicitis there is actual or visible perforation only in a minority of cases. In support of this, he quotes Ochsner's statistics. Berry is opposed to the view of operating always, as soon as the patient is seen, for in this case we should very often operate on patients at an unfavorable stage when mortality is high, and it is usually best to defer operation. A little later, intraperitoneal inflammation may have aided by shutting off and localizing the poison.

It is absurd to pretend that operations, especially major operations, on patients suffering from acute peritonitis do not carry with them much risk. The question is whether the risk of the operation, with its necessary attendant evils, is or is not more than counterbalanced by the good it may do. Shock from manipulation and further absorption of poisons are the evils that may ensue from a large operation. The good thereof consists in closing the perforation or removing a septic focus to prevent further entrance of poison, and removing, to only a limited extent, however, poison from the peritoneal cavity. Poison can not be removed from the blood, but by encouraging excretion mainly by the administration of fluid the blood can be helped to get rid of it. Berry divides all cases of peritonitis into four classes: 1. Those in which there is no perforation of any viscus and no collection of fluid in the peritoneal cavity. The amount of poison is necessarily small in the peritoneal cavity, and eliminant treatment by free purgation with salines, and administration of large quantities of fluid by the mouth, rectum, or intravenously, is the chief indication. Opium should be avoided. 2. Cases in which we know or suspect that there is a recent perforation of a hollow viscus, such as the stomach or intestine. Here immediate operation should be performed with the object of closing the perforation and preventing further extravasation into the peritoneal cavity. The prevention of peritonitis, rather than its cure, is aimed at. 3. This important and numerous class includes the majority of cases of appendicitis. There is considerable peritonitis, involving much of the peritoneal cavity, with more or less tendency to the concentration of the inflammation in one lesion. Septic fluid is more or less localized. The patient's condition will depend on the extent to which the septic focus is shut off by omentum and adhesions, and on the absence of great tension. In such a case the operation for its removal may be far more dangerous than leaving a septic focus where it is; at any rate, for a short time, until a more favorable period for operation. Ochsner's opinions and statistics support this conclusion. In the presence of such cases we should ask ourselves, (*a*), What is likely to be the course of events if we do not operate at once? (*b*), What good and what harm may we do by operating at once? (*c*), If we operate, what operation should be adopted? Berry discusses these three questions fully. He opens localized collections of pus, when sufficiently large, through the posterior fornix in women, and through the rectum in men. Great care must be taken to protect non-adherent peritoneal cavities. 4. In the fourth class there is a general diffuse peritonitis, with general distension of the whole abdomen, and purulent fluid diffused over a large portion or the whole of the abdomen. There is much difference of opinion regarding the appropriate treatment of this condition. The first plan is to keep the patient quiet and the stomach empty until the inflammatory processes and exudates have become localized, and if the patient lives until this has taken place, then to operate. The next method consists in freely opening the peritoneal cavity, breaking up adhesions, opening pockets, and irrigating the entire peritoneum. The third method includes opening the abdomen, removing the cause of inflammation, and thorough drainage with the least possible disturbance of viscera.

Berry, having tried all three methods, believes that the Ochsner method is the most suitable for most cases of diffuse peritonitis. For the very worst class, Murphy's method of small abdominal opening, the closing of the perforation and the removal of the appendix, the introduction of a large drainage tube, with the patient in a sitting posture, and the administration of salt solution by rectum every two hours is good. He agrees with those who condemn the very large operations, the mortality of which has been terrific. He notices a tendency among surgeons of large experience to abstain more and more from such operations. He is greatly impressed with the advantages of a sitting posture, advocated by Murphy, and tries to persuade all who send cases of peritonitis to the Royal Free Hospital to adopt that precaution. Finally, he says: "It may seem to you an extraordinary thing for me to say, but I say it with deliberation and with a profound conviction of its truth, that the very high gross mortality in acute appendicitis, which undoubtedly exists in this country (and in other countries as well) is largely due to the fashion of indiscriminate, excessive, and injudicious operating, which not long ago was at its height, but which I venture to think and hope is now showing signs of subsiding." Again: "It is not unusual to hear it stated that modern operations for appendicitis have resulted in a great saving of life. I believe that on the whole the exact converse is the case." He believes that a return to the old treatment of appendicitis in vogue twenty-five years ago would result in a lesser mortality. He does not refer to operations done by surgeons of large experience, but rather to the far larger number of operations performed by those who do not publish their results, and who do not discriminate sufficiently between the cases in which operation is indicated and those in which it is not.

3. Acute Yellow Atrophy.—Campbell-Horsfall reports a case of acute yellow atrophy, following operation, and cites reports of eleven cases following operation in which an anesthetic has been given, the anesthetic usually being chloroform. He asks: What influence does chloroform play in the cause of this condition? He considers the toxic theory of the disease more tenable than that which ascribes it to *Bacillus coli* in the liver, and says it is quite conceivable that the primary toxic agent is the result of faulty metabolism, and in regard to the cases under discussion he considers the presence of chloroform as a crowning factor in the causation of this disease.

4. Intussusception.—Bidwell describes his method of end-to-end anastomosis. It consists of a double continuous suture passed between guides, the adjacent pieces of intestine being held tightly stretched while the suture is passed. In this way contraction of the line of union is impossible.

7. Cerebrospinal Fever.—Wright considers in detail the Glasgow epidemic in relation to race and sex, age distribution, immunity, communicability, channels of infection, climatic conditions, suggested sources of infection, predisposing causes, incubation period, history and symptoms, characteristic attitude, Kernig's sign, rash, sequelæ, anomalous forms (ambulant, abortive, intermittent, chronic), prognosis, mortality, remedies, bacteriology, lumbar puncture, and differential diagnosis. In regard to remedies, sera have produced but little beneficial effect, mercury has been tried and found useless, morphin in large doses hypodermically has been found useful when given early. Lumbar puncture is resorted to on every possible occasion by the health department; it is very simple, and if done with the usual precautions is attended by no risk. Many deaths in Glasgow, as well as elsewhere, have been certified as simple meningitis, idiopathic meningitis, acute meningitis, septic or suppurative meningitis, posterior basal meningitis. He asks what caused the meningitis, and suggests that such cases now be relabeled cerebrospinal fever, as should also many cases certified as tuberculous meningitis. He further believes that many deaths said to be due to "teething convulsions," to acute gastritis, and probably also to summer diarrhea, may really be cases of cerebrospinal fever.

9. Air in Fats in Relation to Caisson Disease.—Vernon concludes as follows: At body temperature, fats dissolve more than five times as much nitrogen as an equal volume of water or blood plasma. The special tendency of the fat-containing tissues (such as subcutaneous tissues, spinal cord, and peripheral nerves) of caisson workers and divers to suffer injury from the liberation of gas bubbles after rapid decompression is dependent on this great solubility.

Medical Press and Circular, London.

August 28.

12 Infantile Diarrhea. G. F. Still.
13 *Thoracic Lymphosarcoma. J. Horne.
14 Treatment of Urinary Disorders by the Mineral Waters of Evian. J. Grisel.
15 Ill Health and School Attendance. F. J. Poynton.

13. Thoracic Lymphosarcoma.—Horne reports a case with the following unusual features of clinical and pathologic importance: 1. The extent of the occlusion of the lumen of the esophagus by an extrinsic new growth. 2. The possibility of passing a bougie of the largest size, in spite of such marked esophageal obstruction, illustrates both a clinical fallacy which may attend the use of soft rubber instruments, and also the value of esophagoscopy in the diagnosis of such cases; it being improbable that a rigid tube would have passed the growth. 3. The localized edema of the larynx might be accounted for by the conditions within the thorax. At the same time it is well to consider the possibility of such edema being occasioned by a local infection at the site indicated. The presence of the scar in the larynx raises the interesting question whether the thoracic growth were not the result of an infection, and whether lymphosarcoma may not eventually have to be numbered, together with the lesions met with in Hodgkin's disease, among the infective granulomata. The question is not necessarily negatived by the absence of enlarged cervical glands, for Horne has shown experimentally that after an inoculation the proximal group of glands may not be permanently affected, whilst postmortem a distal group may be found markedly enlarged.

Clinical Journal, London.

August 21.

16 Surgery of the Brachial Plexus. J. Sherren.
17 Diagnosis and Indications for Operations in Gallstones. H. White, M. Robson, S. Taylor and others.

Indian Medical Gazette, Calcutta.

August.

18 *Prophylaxis of Plague. P. S. Ramachandrier.
19 Internal Derangements of the Knee Joint. A. Caddy.
20 Incidence of Typhoid in Civilian Europeans and in Natives in Calcutta. L. Rogers.
21 Leishman-Donovan Infection in Gurkhas. S. A. Harriss.
22 Malta Fever in Bundelkhand. C. A. Sprawson.
23 Angioneurotic Edema. G. Franklin.
24 Case of Spinal Injury. A. Chalmers.

18. Plague.—Ramachandrier considers at great length the question of plague in India and makes many recommendations from which the following, as being universally applicable, are selected: The destruction of all rats infesting houses; traps to be baited with fresh mutton; frequent change of position of the trap. With regard to rat traps, the author points out the necessity of immersing them in hot water every day and keeping them in the sun during the whole day, as the least smell of a rat about the trap prevents other rats from entering them. If a dead rat is found in any part of the house it should be approached with care as fleas are likely to attack any one handling it. He recommends a coating of thick oil, such as castor oil, on the hands and forearm. Fleas live without food for seven days, therefore a danger of infection lurks in a plague house for at least a week after a dead rat is found. A dead rat found in the open in a house suggests plague, for they do not ordinarily come out of their holes to die. Finally, he says, rear cats.

Journal of Obstetrics and Gynecology of the British Empire, London.

August.

25 Pelvic Inflammations in the Female. T. Wilson.
26 *Primary Chorioepithelioma Outside the Uterus. H. T. Hicks.
27 Modification in the Performance of Ventrofixation of the Uterus. A. J. Wallace.
28 Chorioepithelioma Complicated by Hematometra. W. S. A. Griffith and H. Williamson.
29 Calcareous Fibromyoma of the Right Ovary Complicating Delivery in a Primagravida. T. W. Conway.

26. Chorioepithelioma.—Hicks concludes his paper with the following statements: 1. These vaginal growths most often follow the passage of a vesicular mole, but, like intrauterine chorioepithelioma, may follow abortion or full term pregnancy. 2. They may occur while the mole is still in the uterine cavity. 3. They originate from the epithelium of migratory embolic villi. 4. There is no evidence to show that a malignant growth or mole can be expelled from the uterine body and leave that organ free from growth, while metastatic growth may occur in other parts of the body. 5. The growth spreads through the perivaginal veins. 6. There is no means of telling whether or not any given mole will be followed by chorioepithelioma. 7. The large quantity of syncytial masses seen in the section is very characteristic of vaginal chorioepithelioma.

Obstétrique, Paris.

March, XII, No. 2, pp. 97-192. Last indexed, May 18, p. 1727.

30 *Deciduoma Malignum. Trillat and Violet.
31 Prognosis of Breech Presentation. (Presentation du siège.) Gaussel-Ziegelmann.

May No. 3, pp. 193-288.

32 Feeding of Infant up to Two Years. (Ration alimentaire.) C. Michel and Perret.
33 Lactation by Cardiac Patients. (L'allaitement chez les cardiaques.) L. Le Roux.

30. Deciduoma Malignum.—Trillat and Violet summarize the facts known to date concerning chorioepithelioma.

Presse Médicale, Paris.

August 3, XV, No. 62, pp. 489-496.

34 Research on Gastric Secretion. A. Frouin.

August 7, No. 63, pp. 497-504.

35 Uric Acid and Purin Bases in Relation to the Food and Morbid Conditions. H. Labbé.
36 When to Amputate a Crushed Leg. (Quand doit-on amputer dans les écrasements du membre inférieur?) M. Guibé.

August 10, No. 64, pp. 505-512.

37 Indications and Treatment in Hematometria. P. Sikora.
38 *Diagnostic Ocular Reaction to Tuberculin in Children. (Oculoréaction à la tuberculine.) J. Comby.
39 Exercise with Heavy or Light Weights. (Poids lourds ou poids legers.) P. de Champtassin.

August 14, No. 65, pp. 513-520.

40 Advantages of Trephining Early in Case of Fracture of Skull. (Trépanation précoce dans les fractures du crâne.) L. Latour.
41 Posology of Climate. G. Sardou.
42 *Simplified Cryoscopy. A. Martinet.

August 17, No. 66, pp. 521-528.

43 Origin of Superior Facial Nerve in Man. C. Parhon and J. Minea.

August 21, No. 67, pp. 529-536.

44 *Post-typhoid Localizations of Tuberculosis in Respiratory Apparatus. (Tuberculose post-typhique.) C. Lesieur and L. Jaubert.

August 24, No. 68, pp. 537-544.

45 Radiculitis. Camus and A. Sézary.
46 *Uremic Intestinal Pseudo Occlusion. P. Delbet.
47 Treatment of Oriental Boil. (Bouton d'orient.) D. Benoit.

August 28. No. 69, pp. 545-552.

48 Urobilin in Feces and Its Clinical Significance. A. Chauffard and H. Bendu.

49 *Modified Pubiotomy. (Nouvelle opération destinée à remplacer la symphyséotomie.) L. Maire.
50 New Sphygmomanometer. E. Gros.

August 31, No. 70, pp. 553-560.

51 Opsonins. C. Levaditi.
52 Congenital Thyrohyoid Fistula. A. Broca.

38. **Tuberculin Ophthalmo-Diagnosis in Children.**—Comby has tested Calmette's eye tuberculin test, described editorially in The Journal, Sept. 28, 1907, page 1119, thoroughly in children. His experience confirms Calmette's assertions in regard to the diagnostic value of the test, but he found the reaction from the 1 per cent. solution too powerful and used only a 0.5 per cent. solution in a later series of 108 children. In 132 children examined, the reaction was positive in 62; and postmortem examination in 4 cases confirmed the existence of a tuberculous focus. The negative results in 70 children were confirmed at autopsy in 6 cases. Comby recommends the ocular reaction as a certain, harmless and easy means of diagnosing tuberculosis in children.

42. **Simplified Cryoscopy of the Urine.**—Blarez utilizes the refrigerating properties of evaporating ether to freeze the urine in a test tube, 1.5 cm. in diameter with two isolating rubber bands. This test tube is slipped into a larger but shorter one, leaving a space of a few mm. between them, with a rubber stopper at the top of the outer test tube. The outer test tube is enclosed in a double or triple cotton jacket. A thermometer and stirring rod project down into the urine in the inner tube. The whole apparatus is then placed in a narrow glass and the glass is filled with ether. The cotton jacket absorbs the ether and the urine freezes solid, especially if stirred gently with the rod, at about the tenth minute.

44. **Post-typhoid Tuberculosis.**—Lesieur and Jaubert cite instances showing the bad prognosis in cases in which the tuberculous affection develops early after the typhoid. The cases seem to run a rapidly fatal course, almost suggesting that they are a continuation of the typhoid infection. They present the clinical picture of a bronchopneumonia or miliary tuberculosis, with or without physical signs, or there may be circumscribed progressive induration at the apex. When the onset of the tuberculosis follows after an interval of normal convalescence, the pulmonary affection is of the ordinary type and the prognosis is much more favorable, while the cases in which the tuberculous affection does not develop until long afterward have the same prognosis as the ordinary varieties. The same applies to tuberculous pleurisy—the later the onset after the typhoid fever, the better the outlook. The conclusions of the article emphasize the importance of protecting the patient against infection with tuberculosis during convalescence from typhoid.

46. **Uremic Pseudo-Ileus.**—Delbet has had experience with several cases of supposed intestinal occlusion in uremic patients in which the course of the disease cleared up the diagnosis. In uremic pseudo-ileus the patient's digestive apparatus has been out of order for some time, with alternating diarrhea and constipation, until the obstipation becomes unconquerable and pseudo-occlusion results. The abdomen is not distended to such a degree as in true ileus; there is no colic and no appearance of peristalsis. If vomiting occurs, it retains its uremic character without fecaloid admixture and independent of ingestion of food or contraction of the bowels. Edema or albuminuria confirms the diagnosis. Treatment should be exclusively medical. Purgatives and evacuants are contraindicated, as they tend to increase the spasm and can only aggravate the condition. Suppression of all articles of food that may affect the kidneys injuriously, especially alcohol, and restriction to a milk diet will generally, he states, put an end to the trouble. If not, then diuretics and venesection are indicated. In one case the uremic character of the occlusion was not recognized in time and Delbet operated for the supposed mechanical ileus. No obstacle or neoplasm was discovered and the patient succumbed next day in coma without peritoneal reaction or anuria Closer study of the history revealed features suggesting the possibility of uremia as a factor in the occlusion, and two similar cases since, in which treatment was instituted on the assumption of an uremic basis, confirmed the correctness of the diagnosis.

49. **Modified Technic for Pubiotomy.**—Instead of sawing the pubis through, Maire saws it only half way through, and then carries the saw at right angles toward the symphysis, continuing the sawing parallel with the flat surface of the bone, until the opposite side is reached, when the saw is brought out by sawing vertically through the outer half of the bone. The bone, thus sawed through by steps, separates and enlarges the pelvis by 3 or 4 cm., while the bony ring is still intact. He has been perfecting this technic since 1897 on animals and on the cadaver, and suggests the advisability of ensuring permanence of the results by interposing a plate of bone or metal until after consolidation. [Those who advocate pubiotomy are being called "giglists" in Europe, as Gigli—pronounced *Jeelyee*—was the first to suggest the operation which his wire saw has made possible.]

Revue de Chirurgie, Paris.

June, XXVII, No. 6, pp. 897-1120. Last indexed, August 21, p. 721.

53 Technic of Pancreatectomy. A. Desjardins.
54 Gunshot Wounds and Infection. (Les blessures par armes de chasse et l'infection.) Niciot and Romary.
55 Tuberculous Hypertrophic Osteo-arthropathy. H. Alamartine.
56 Gaseous Hydatid Cysts of the Liver. (Des kystes hydatiques du foie.) F. Dévé.
57 *Congenital Dislocation of the Hip. (La luxation cong. de la hanche.) P. Le Damany. Commenced in No. 5.

July, No. 7, pp. 1-144.

58 Surgical Anatomy of the Hyo-thyro-epiglottic region. P. Poirier and R. Picqué.
59 *Traumatism and Appendicitis. E. Jeanbrau and J. Anglada.
60 Radical Cure of Inguinal Hernia. E. J. Corbellini.
61 Diastasis of the Inferior Tibio-peroneal Articulation. E. Quénu. Commenced in No. 6.
62 Volvulus of the Small Intestine and Cecum. (Volvulus de l'int. grêle, etc.) M. Guibé. Commenced in No. 3.

August, No. 8 pp. 145-284.

63 Mixed Tumor of the Cheek. (Anomalies fissuraires de la fente fronto-maxillaire.) G. Layet.
64 Present Status of Phototherapy. Mally.
65 Sub-astragaline Dislocations. A. Baumgartner and A. Huguier. Commenced in No. 3.

57. **Congenital Dislocation of the Hip.**—As the result of extended inquiries, Le Damany finds that congenital hip-joint dislocation becomes more frequent as we ascend the anthropologic scale, and is at its maximum of frequency in the white race. No other congenital malformation follows this rule, hare-lip, club-foot, hydrocephalus, etc., are as common in the other races as in the white. This in his opinion indicates a different etiology of this affection from that of other congenital defects, and supports the theory previously advanced by him as to the origin of congenital luxation of the hip.

59. **Traumatism and Appendicitis.**—Jeanbrau and Anglada find no good reason for accepting traumatism as a sole and primary cause of appendicitis, and no satisfactory record of appendicitis occurring in a person with a perfectly healthy appendix not containing a foreign body. Trauma may act as an exciting cause of an acute attack when there is already existing chronic disease. The maximum delay of the symptoms of appendicitis after a causal injury, they hold, ought not to exceed forty-eight hours; if longer, the injury can generally be excluded as a causal factor. If after spontaneous recovery from an attack, claimed to be due to traumatism, other attacks occur, they should be accepted as due to appendicular disease, not to the injury. The medicolegal bearings of the subject are discussed.

Semaine Médicale, Paris.

September 4, XXVII, No. 36, pp. 421-432.

66 Mechanism of Immunity. V. Henri.
67 "Spring hip." (Hanche à ressort.)

Archiv f. Gynäkologie, Berlin.

LXXXIII, No. 1, pp. 1-256. Last indexed, September 28, p. 1119.

68 Streptococcus Venous Thrombosis. (Streptococcus und Thrombose.) H. v. Bardeleben.
69 Two Weeks' Human Ovum. (Ei der zweiten Woche.) E. Cova.
70 Fibrosarcomatous, Giant-celled Elephantiasis of Endometrium. J. Felländer.
71 Traction and Spontaneous Separation of Body of Uterus from Neck in Two Cases of Uterine Myoma. (Trennung des Ut.-Körpers vom Collum ut. bei Ut. Myomen.) G. Hedrén.
72 *Early Vaginal Incision. (Die vag. Incision.) L. Fraenkel.
73 *The Sigmoid Flexure in Relation to the Female Genitalia. (Beziehungen der Fl. sigmoidea zum Weiblichen Genitale.) H. Albrecht.
74 *Statistics of Uterine Cancer. (Gebärmutterkrebs.) E. Zurhelle.

72. **The Vaginal Incision.**—Fraenkel advocates the vaginal incision for every case of effusion or inflammation, large or small, high or low, in the pelvis, regardless of its consistency

and from what organ it proceeds, if only a part an inch or more in diameter lies near or on the vagina or can be pushed down to it. High exudates tapering to more or less of a point toward the vagina, are the special domain of the incision, but it is indicated in every kind of febrile, tumor-forming inflammation in this region. Fraenkel uses a special combined trocar-forceps. The technic resembles somewhat that for perforation, after puncturing and withdrawing the adjustable trocar, he spreads the blades of the forceps. Tamponade and pressure of a heavy icebag arrest tendency to hemorrhage. He drains with a tapering hard rubber tube with three large openings and a projecting rim which rests in the vagina. Before removing the speculum he introduces two or three of these drains, holding them in place with a stitch if necessary. This stretches the incision and prevents bleeding while affording the best conditions for drainage. A little gauze is then packed loose in the vagina. He waits for two or three weeks after this treatment before resorting to the radical operation, even in the most apparently desperate cases. In other cases he expects the temperature to be normal by the fifth day, at the same time he watches carefully for the ripening of some other focus. In one case he applied suction hyperæmia by means of a small rubber bell pressed against the tissues, enclosing the mouths of the rubber drains. Aspiration through a connecting rubber tube brought the last contents of a purulent hematocele; recovery ensued though it had been previously despaired of. The patients were cured without other measures than the vaginal incision in 62 out of 71 cases. The particulars are tabulated and the instruments illustrated.

73. **Sigmoid Flexure in Relation to Female Genitalia.**—Albrecht presents evidence to show that the anatomic and pathologic connection between the sigmoid flexure and the genital apparatus is much closer than is generally recognized. Obstipation, with overfilling of rectum and flexure, must have a great influence on the position of the uterus, especially in the young, and the induced retroflexion of the uterus in turn increases the tendency to obstipation, or may nullify correcting operations. These relations are still more intimate in case of inflammatory processes in this part of the intestine. A clinical picture results which may simulate pelvic peritonitis until the stormy onset subsides under the influence of rectal enemas. The possibility of sigmoiditis should be borne in mind when examining a case of inflammatory tumor formation in the vicinity of the uterus accompanied by obstipation and signs of stenosis in this region, also in cases of abscess apparently proceeding from the genitals, but associated with signs of ileus or peritonitis. The elderly women are particularly subject to stenosis of the flexure from an indurative inflammation originating in a false diverticulum. He cites examples of this and other affections of the sigmoid flexure and commends sigmoidoscopy as indispensable in gynecologic practice.

74. **Curability of Uterine Cancer.**—Zurhelle classifies the experiences at Bonn. Out of 253 cases of cancer of the cervix, 33.2 per cent. were regarded as operable, and 14 per cent. have been cured over 5 years. In 51 cases of cancer of the body, 75.75 per cent. were operable, and 36.3 per cent. of the patients have been cured for more than 5 years.

Archiv f. klinische Chirurgie, Berlin.

LXXXIII, No. 1, pp. 1-339. Last indexed, Aug. 31, p. 808.

75 Abdominal Contusions. (Bauchverletzungen durch stumpfe Gewalt.) Berger.
76 *Exploratory Ligature of Common Carotid. M. Jordan.
77 Fracture of Tubercle of Tibia. J. Jensen.
78 Dislocation Fracture of Scaphoid Bone and Its Consequences. (Verrenkungsbrüche des Naviculare pedis.) C. Deutschländer.
79 Anatomic Basis for Operative Treatment of Inguinal Hernia. (Leistenbrüche.) R. J. Wenglowski.
80 Contracted Bladder and Its Treatment. (Schrumpfblase Darmplastik.) W. Kausch.
81 Bacteriolytic Action of Human Serum on Colon Bacillus by Surgical Operations. (Beeinflussung der Coli-Bactericidie.) P. Rockenheimer.
82 Treatment of Fractures of Upper and Lower End of Femur by Extension. Bardenheuer.
83 *Intestinal Polyposis and Its Relation to Carcinomatous Degeneration. H. Doering.
84 Stab Wound of Lung. Suture. Recovery. (Stichverletzung der Lunge.) V. E. Mertens.
85 Origin of Tuberculous Stricture in Intestines. (Entstehung tub. Darmstrikturen.) O. Busse.
86 Torsion of Great Omentum. (Torsion des grossen Netzes.) Adler.
87 Spontaneous Detachment of Hyoid Cartilaginous Joint. (Spontanlösung der ypsilonförmigen Knorpelfuge.) P. Frangenheim.
88 Traumatic Displacement of Spinal Cord. (Traum. Heterotopie des Rückenmarks.) A. Jenckel.
89 New Plastic Operation for Phimosis. (Neue plast. Operation der Phimose.) S. Tobiasek.
90 Transverse Suprahyoid Pharyngotomy as Preliminary to Removal of Tumors in Nasopharyngeal Cavity. Two Cases of Temporary Resection of Upper Jaw. (Pharyngot. etc. Vorresection zur Entfernung von Nasenrachentumoren.) M. Hofmann.
91 Instrument for Craniotomy. Küster.
92 Treatment of Fracture of Neck of Femur. (Fraktur des Schenkelhalses.) A. Scharlz.

76. **Exploratory Ligature of Common Carotid.**—Jordan comments on the fact that in about 25 per cent. of the cases in which ligature of the common carotid was required cerebral disturbances were observed and 10 per cent. terminated fatally. His experiments on dogs have shown that it is possible to learn beforehand whether or not the conditions in the circulation are such as to allow ligation of the carotid, and experience with one clinical case has confirmed his experimental observation. He ligates the common carotid loosely and leaves the ligature in place for forty-eight hours. If no brain disturbances are noted, and if the pulse returns promptly after the preliminary ligature is removed, then the conditions in the circulation will allow definite ligation of the artery. If the slightest brain disturbances become evident after the preliminary ligature has been applied, no harm is done, as the ligature is at once removed, but no operation should be attempted in this case. By this means complications and sudden death will be averted. He thinks that a ligature applied loosely for forty-eight hours in this way might prove a valuable aid in promoting healing of a sutured blood vessel. The patient in the successful case reported was a man of 59, with a recurring carcinoma in the neck.

83. **Cancerous Degeneration of Intestinal Polypa.**—Doering illustrates the findings in a case of rectal polyposis in which there was cancerous degeneration at several points. He has also had another patient under observation. One of his patients was cured by removal of the part of the rectum involved. Doering has collected from the literature reports of 50 cases of intestinal polyposis, in 31 of which cancerous degeneration was noted. Four of the patients have been lost to sight and 37 have died. Six have been much improved by removal of the part of the rectum involved and 5 have been cured, including 3 in whom the invaginated part of the intestine was resected and 2 in whom the rectum was removed. One patient has been cured for four years to date. The affection shows a family tendency. Two cases occurred in children under 10, 10 between 10 and 20, 10 between 20 and 30, 13 between 30 and 40, and 2 each between 40 and 50 and 50 and 60, while the case reported was in a patient between 60 and 70 years of age.

Berliner klinische Wochenschrift.

July 15, XLIV, No. 28, pp. 875-910.

93 Successful Operative Treatment in Two Cases of Tumor at Cerebello-pontine Angle. (Geschwulst am Kleinhirnbrückenwinkel.) H. Oppenheim and M. Borchardt.
94 *Successful Treatment of Pellagra with Atoxyl. V. Babes and A. Vasiliu.
95 Hyperostosis of Upper Jaw. (Hyperostose der Oberkiefer.) K. Wallitzek.
96 Technic for Improvised Asepsis. O. Grosse.
97 *Spontaneous Injury of Cervix During Abortion. (Spont. Cervixverletzung.) L. Blumreich.
98 *Tuberculosis of Eye and Its Treatment. (Tub. des Auges.) Helbron.

July 22, No. 29, pp. 911-942.

99 *Successful Operative Treatment in a Case of Circumscribed Adhesive Cerebral Arachnitis. S. Placzek and F. Krause.
100 *Habitual Vomiting in Infants. ("Spelkinder.") J. Peiser.
101 Inability to Close the Eyelids. (Apraxie des Lidschlusses.) M. Lewandowsky.
102 Biology of Pernicious Blood Affections and of the Malignant Cells. (Blutkrankheiten.) C. Funck.
103 *Atoxyl Treatment of Syphilis. F. Moses.

July 29, No. 30, pp. 943-978.

104 The Nervous System in the Early Stages of Syphilis. E. Meyer.
105 Concentration of Immune Bodies in Diphtheria Serum. (Konzentrierung der Immunkörper im Diph.serum.) L. Brieger and M. Krause.
106 *Neuralgia and Myalgia. G. Perlts.
107 Gangrene of Scrotum. Kettner.
108 Syphilitic Family Histories from Central America. (Syph. Familiengeschichten.) E. Rothschuh.
109 Roentgen Diagnosis and Its Influence on Treatment of Fracture of the Elbow. (Ellenbogenbrüche.) M. Cohn.

94. Practically the same article appeared in the *Bull. de l'Acad. de Méd.*, July 23, 1907.

97. **Spontaneous Injury of Cervix During Abortion.**—Blumreich had a young primipara under observation during abortion at the fourth month. The cervix was unusually rigid and during the course of the abortion it tore loose on both sides from the vaginal walls. He would certainly have doubted the spontaneous character of the injury if it had not occurred under his eyes, as it were. He reviews a few similar cases of the kind already on record.

98. **Tuberculosis of the Eye.**—Helbron's experience has been that tuberculosis was responsible for .5 per cent. of 15,000 ophthalmic affections at the Berlin eye clinic. He remarks that the prognosis is more favorable than generally accepted, especially when the lesion is directly accessible. With the exception of what he calls "conglomerate tuberculosis," recovery was the rule although with more or less impairment of function. The tuberculous process remains local except with "conglomerate tuberculosis" in which there is always danger of general infection and tuberculous meningitis. Treatment is by local excision and general measures. Tuberculin has been extensively used in the clinic but the results to date are not conclusive either way.

99. **Operative Treatment of Circumscribed Arachnitis.**—Placzek diagnosed a tumor in the posterior cranial fossa from the symptoms which included vomiting, vertigo, tendency to fall toward the left, incomplete bilateral paralysis of all the external muscles of the eye and of the right half of the face and brow. The operation revealed merely unusual thickness of the bone at the point, the dura was also unusually thick and adherent to the pia, with an encapsulated accumulation of fluid on the lower surface of the right half of the cerebellum. No evidences of a tumor were found but the rapid subsidence of the symptoms showed that the cause had been removed. A period of high, varying temperature followed, lasting for three months, with occasional chills and vomiting, all in sharp contrast to the good general condition. He is inclined to attribute the fever, etc., to some injury to the medulla from compression during the operation. The technic of the operation is illustrated.

100. **Habitual Vomiting in Infants.**—The trouble in the majority of cases, Peiser states, is due to overfeeding, at too short intervals, but in some children there is evidently some neuropathic basis, possibly a reflex spasm of the pylorus. In another group the children do not vomit if left undisturbed after eating, but if they are taken up some of the stomach contents runs out of the corners of the mouth. Roentgen examination has shown that these weak, flabby children lack normal peristalsis of the stomach. In one case the trouble was traced to relics of a fetal peritonitic process, and loosening of the adhesions between the intestines put an end to the habitual vomiting.

103. **Atoxyl Treatment of Syphilis.**—Moses has treated 19 syphilitics with atoxyl; 5 were cured and 7 improved, but more or less serious by-effects were observed in all but 7 cases, including diarrhea, transient albuminuria, exanthem, and in one case a slight transient weakness of the pulse and dyspnea.

106. **Importance and Treatment of Myalgia.**—Peritz emphasizes the importance of differentiating between neuralgia and myalgia, especially on account of the liability of the latter to be mistaken for an affection of some vital organ, and directs attention to the efficacy of proper treatment. The painful points in neuralgia generally correspond to the points at which the nerve emerges from the bone, or comes toward the surface. In myalgia, the pain is usually located in the muscle itself, and is always distributed over a much larger area than in neuralgia, while the tenderness persists during the intervals between the attacks of pain. There is also generally a zone of hyperalgesia above the affected muscles, but it does not parallel the course of the nerves. The myalgia generally develops by preference where the muscle is thinnest and most exposed. In Peritz' illustrations the myalgic points are seen to correspond to the points where the muscle blends into its tendon, and they are generally at the edge of the muscle. Myalgia, he has found, is rebellious to electricity, massage and the salicylates, but has always yielded promptly to injections of a 0.2 per cent. physiologic salt solution, directly into the muscle. Several injections are made at different points over the painful area, and repeated later if necessary. In one instance, an elderly patient was suddenly attacked with pain in the precordial region, which recurred spasmodically several times a day and radiated into the arm. Nothing abnormal could be found in the heart action except a rhythmic dropping of every fourth beat. Peritz was able to determine the existence of myalgia of the upper part of the free margin of the pectoralis major. Injection of the salt solution cured the myalgia, and the nervous symptoms, including the cardiac arhythmia, also vanished. It is probable, he thinks, that the form of angina pectoris in which benefit is obtained from massage, is probably myalgia. In the epigastric region it is liable to be mistaken for a stomach trouble. The affected part of the rectus muscle may exert pressure on the stomach, especially when that organ is distended after a meal, producing symptoms simulating "nervous dyspepsia." The reflex symptoms of myalgia may include headache and vertigo and pains in the compensating sound muscles, as in myalgia of the gluteal muscles, in which the pains are generally referred to the outside and calf of the leg.

Deutsches Archiv f. klinische Medizin, Leipsic.

June, XC, Nos. 3-4, pp. 211-460. Last indexed June 15, p. 2080.

110 Metallic Resonance. (Metallklang.) R. Geigel.
111 Temporary Absence of Knee Jerk in Hysteria. (Patellarreflexe.) G. Köster.
112 Nodules Found in Lungs of Guinea-pigs After Injection of Tuberculous Material, etc., and Their Relation to Immunization. (Die Knötchenlunge.) A. Uffenheimer.
113 Impracticability of Colon Agglutination in the Clinic. (Coliagglutinine.) C. Killeneberger.
114 *Aneurism of Hepatic Artery. J. Bickhardt and E. Schümann.
115 Diagnostic Importance of the Stratification of the Stomach Contents, Especially in Respect to the Sahli-Seiler Test Breakfast. (Schichtweise Auffüllung des Magens.) O. Prym.
116 *Case of Infection of Meninges with Yeast Fungus. (Saccharomykose.) W. Türk.
117 Orthostatic Albuminuria. O. Porges and E. Pribram.
118 Myography in Tabes, Tetany, Paralysis, etc. (Galvanische Muskelzuckung bei verschiedenen Krankheiten.) J. Kollarits.
119 Metabolism of Minerals in Consumption. (Mineralstoffwechsel der Phthisiker.) A. Mayer.
120 Production and Elimination of Oxalic Acid in Infectious Diseases. (Oxalsäure.) Id.
121 Topography of Normal Stomach. (Normaler Magen.) F. M. Groedel.

July, XC, Nos. 5-6, pp. 461-630.

122 *Staphylomycosis. M. Otten.
123 The Stethoscope. H. Gerhartz.
124 *Perforation of Aneurism of Aorta into Pulmonary Artery. M. Kappis.
125 Influence of Exercise on Blood Pressure and Its Importance in Functional Tests of the Heart. (Blutdruck nach Körperarbeit.) H. Storaberg.
126 Acute Corrosive Sublimate and Oxalic Acid Intoxication. (Sublimat- und Oxalsäurevergiftung.) W. Pfeiffer.
127 Tympanitic and Non-tympanitic Resonance. (Tymp. u. nichttymp. Schall.) R. Geigel.

114. **Aneurism of Hepatic Artery.**—The symptoms first observed are due, the authors state, to the frequently recurring hemorrhages in the biliary passages, manifested by pain suggesting gallstone colic, jaundice and hemorrhage from the digestive tract, the three occurring together. The second group of symptoms is the result of mechanical conditions, spasmodic pain and a palpable and possibly pulsating tumor in the liver with a systolic murmur. A case is described in which the course of the case confirms the diagnosis, although the patient is still living. Carcinoma of the stomach was excluded by the absence of cachexia and later by the marked subsidence of the tumor at times. In 4 cases on record the liver aneurism developed in connection with osteomyelitis, in 4 with typhoid, and in 1 with pneumonia. The postmortem findings in 2 other cases reported revealed a mycosis as the primary cause of the aneurism. A syphilitic history has been noted in some cases. Collateral circulation is established by the time the aneurism has developed, so that ligation of the trunk of the artery is practicable. About 37 cases of aneurism of the hepatic artery are on record, but Kehr was the first to report—in 1903—a case in which the artery was successfully ligated. Other measures, the authors assert, are futile.

116. **Yeast Fungus Meningitis.**—Türk was able to cultivate the yeast fungus directly from the cerebrospinal fluid in the

case reported. The patient was a housemaid, aged 43, who presented the clinical picture of tuberculous meningitis except for the unusually protracted course, the comparative euphoria and the improvement after each lumbar puncture. The mouth and throat and the meninges were the only points where the yeast fungus had located, but tuberculous lesions were found in the lungs.

122. **General Staphylococcus Infection.**—Otten summarizes 55 cases of staphylococcus mycosis and states that only 11 of the patients recovered. In 18 cases the primary infection resulted from a boil or carbuncle, in 12 from a felon or skin wound, in 8 from the urinary passages, in 3 from the uterus, in 2 from the tonsils and in 11 from osteomyelitis. The cases of acute osteomyelitis or abscess in liver, brain or around the kidneys, in which prompt operative treatment was instituted, were the only ones with favorable outcome. Bacteriologic examination of the blood and also of the cerebrospinal fluid, urine and pus of metastatic abscesses, is extremely important, not only for the diagnosis, but also for the prognosis and as a guide to treatment. Metastatic processes were discovered in all but 3 cases, multiple in all but 6. Endocarditis was observed in 14 out of the 55 cases.

124. **Perforation of Aortic Aneurism into Pulmonary Artery.**—Kappis tabulates the details of 32 cases, and reports a case under observation, noting especially the sudden onset of the severe heart affection, the signs of aneurism of the aorta, the buzzing over the left side of the base of the heart and the more or less continuous loud and blowing murmurs to the left of the upper half of the sternum.

Deutsche Medizinische Wochenschrift, Berlin and Leipsic.

August 29, XXXIII, No. 35, pp. 1361-1440.

128 *Treatment of Angioma Resembling a Bunch of Grapes. (Angioma arteriale racemosum.) W. Körte.
129 *Secretion of Gastric Juice in Fasting Stomach. (Saftabscheidung des Magens im nüchternen Zustande.) M. Gentzen.
130 *Atony of the Stomach and Chlorosis. (Magenatonie u. Chlorose.) H. Schirokauer.
131 *Connection of Nervous Pollakiuria with Sexual Functioning. (Nervöse Blasenerkrankungen.) B. Goldberg.
132 *Nervous Pollakiuria Consecutive to Infantile Enuresis. Id.
133 *Neurasthenic Complete Retention of Urine. Id.
134 Intoxication from Maretin. (Maretinvergiftung.) F. Port.
135 Contagiousness of Pointed Condyloma. Neuberg.

September 5, No. 36 pp. 1441-1480.

136 *Diagnosis and Treatment of Iritis. Heine.
137 Case of Polycythemia and Obsession Neurosis. (Polycythämie u. Zwangsvorstellungsneurose.) Cassirer and Bamberger.
138 *Pathologic Anatomy of True Plethora. M. Westenhoeffer.
139 Detection and Agglutination of Typhoid Bacilli in Blood. W. Veil.
140 Polyneuritis from Local Infection with Colon Bacillus. W. Poljakoff and W. Choroschko.
141 Technic and Significance of Patellar Reflex. W. Guttmann.
142 Actinomycosis of Female Genitalia. H. Neuhauser.

128. **Treatment of Racemose Arterial Angioma.**—Körte has encountered eight cases of this affection. Trauma and vascular nevus were excluded from the etiology, although one patient stated that the growth first began to develop after freezing of an ear. In the other cases it dated from early childhood or was congenital. He regards the affection as a true growth with a progressive tendency, indicating extirpation. He describes the technic he followed in removing the angioma after ligation of vessels. The danger of gangrene renders the operation unusually difficult on the extremities and amputation may be required as the last resort. The affection is essentially a new formation of arteries or vessels resembling arteries, accompanied by eccentric hypertrophy of the already existing small arteries. After removal of the new-formed vessels, constituting the main tumor, the peripheral enlarged afferent arteries subside spontaneously to their normal size.

129. **Gastric Secretion in Fasting Stomach.**—Gentzen has studied Sahli's desmoid test of stomach functioning with the fasting stomach. In 52 tests out of 53 on healthy persons the methylene blue pill taken dry into the fasting stomach was dissolved and absorbed in a remarkably short time, in 33 instances in less than two hours. Methylene blue given in a keratin capsule, and thus certainly not escaping in the stomach, was never refound in the urine in his numerous tests. He concludes from this experience that there must be a certain amount of gastric juice in the fasting stomach, sufficient to digest the catgut string in the desmoid test. The digestion in this case is not the result of mechanical or psychic stimulation of the gastric secretion. When the methylene blue is detected in the urine as early as from one to three hours afterward, it must have been absorbed in the stomach and not in the intestines, as in the latter case the urine does not show the stain until after a much longer interval. The healthy fasting stomach gives the desmoid reaction unusually promptly, and the test can thus be applied in the clinic, dispensing with the test meal. Further research will determine whether the pathologic fasting stomach behaves in the same way.

130. **Gastric Atony and Chlorosis.**—Schirokauer's patients with gastric atony have been debilitated, anemic and nervous. He has found that gastric atony is always accompanied by the "splashing sound," but that this symptom sometimes can be elicited in the healthy stomach after ingestion of even a small amount of fluid. He regards atony as the first degree of muscular insufficiency of the stomach, and treats it with iron and arsenic—generally by intravenous injection to spare the stomach—supplemented with cautiously applied hot baths or electric light baths, and restriction to five light but very nourishing meals a day. The patient is allowed abundance of unsalted butter, but no soup or undue amounts of fluid at any time to overburden the stomach. To increase the appetite and to stimulate the stomach musculature, bitters with strychnin are frequently useful. His experience has been favorable with these measure, as he shows by three typical examples cited.

131 to 133. **Morbidly Frequent Urination.**—Goldberg describes a dozen cases of unduly frequent urination to illustrate the differences between neurasthenic, psychopathic pollakiuria and the pollakiuria that follows enuresis in childhood. The former is frequently observed after opportunity for venereal infection, and is cured by the positive assurance of the physician that venereal infection has not been contracted. In other cases it occurs without connection with the sexual life, and in this case is cured by regulation of intake of fluids and autogymnastics of the bladder muscles, voiding the urine at intervals of one hour for a few days and gradually lengthening the intervals, and 20 drops of extract of rhus aromatica three times a day. The pollakiuria that follows enuresis in childhood is more refractory to treatment. It is aggravated by ingestion of fluid, and is best treated with the measures useful in enuresis. In conclusion, Goldberg reports two cases of neurasthenic complete retention of urine.

136. **Treatment of Iritis.**—Heine insists that iritis should always be regarded as a serious affection, and the patient kept in bed or, at least, in his room; institutional treatment is advisable whenever possible. All physical exertion should be strictly forbidden and laxatives should be given to act several times a day. Moist warmth or a dry dressing is generally preferred to cold, and cupping has sometimes given good results. Salicylates should be given internally and all stimulants avoided. Sweat baths, with diaphoretics internally are also excellent, and hot footbaths have a valuable revulsive action, subjectively at least. On suspicion of syphilis mercurial inunctions and potassium iodid should be pushed, watching for albuminuria. In rheumatic iritis, general measures usually suffice, with courses of mineral waters and other measures to prevent recurrence to which this variety of iritis is especially liable. In scrofulous and tuberculous individuals, besides general tonic measures, a course of tuberculin has sometimes had favorable influence. He warns that the administration of tuberculin in small doses must be kept up for a very long time, never pushing it to a febrile reaction. He advises giving 0.1 mg. two or three times a week for several months; it is injected between the scapulæ. In case of mixed infection he advises combining mecurial inunctions with the tuberculin treatment. Iritis due to metabolic disturbances or infectious disease needs no special treatment. Gonorrheal metastases in the joints and iris have sometimes been attributed to too energetic urethral injections.

138. **Case of True Plethora.**—Westenhoeffer reports a case which, he says, is the fifth on record of true plethora, confirmed by the pathologic anatomic findings. The trouble is evidently persistence of the infantile phase of the marrow of the long bones.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

May, LXXXVIII, Nos. 1-3, pp. 1-336. Last indexed, August 31, p. 810.

143 Prothesis in Case of Exarticulation and Resection of Lower Jaw. (Prothesen des Unterkiefers.) Fritz Königg.
144 Zones of Hyperalgesia in Case of Injuries of Skull and Brain. (Schädel- u. Gehirnverletzungen.) Vorschütz.
145 *Postoperative Complications of Lung. (Lungenkomplikationen nach op. Eingriffen.) E. Wolff.
146 Subcutaneous Luxation of the Astragalus. Operative Treatment. Schlagintweit.
147 Resection of the Vena Cava in Case of Mixed Tumor of Renal Capsule. (Cava-Resektion.) M. Draudt.
148 Gummatous Ostitis with Spontaneous Fracture. P. Frangenheim.
149 *Pathology and Physiology of Patella. F. Kudlek.
150 *Injuries of Diaphragm and Their Consequences; Hernia of the Diaphragm. (Zwerchfellverletzungen und Zwerchfellhernien.) H. Iselin.
151 *Experimental and Critical Study of Ligation of the Large Vessels in the Abdomen. (Unterbindung der grossen Gefässe des Unterleibes.) Offergeld.
152 Chondroma of Joints. (Gelenkchondrome.) E. Lexer.

June, LXXXVIII, Nos. 4-6, pp. 337-600.

153 Injury of Knee, Especially Injury of the Meniscus. (Dérangement im Kniegelenk.) Franz König.
154 Ultimate Results of Operative Treatment of Dislocation of Meniscus in Knee. (Dauererfolge der op. Behandlung der Men. luxationen im Kniegelenk.) A. Martina.
155 Leucocytosis in Appendicitis. R. Kothe.
156 *Results of Treatment of Tetanus. E. Fricker.
157 Intestinal Diverticulum Lined with a Gastric Mucosa. (Darmdivertikel mit Magenschleimhautbau.) E. Deetz.
158 *Gastroenterostomies for Non-Malignant Stomach Affections. (Gastroent. bei benignen Magenerkrankungen.) O. E. Schulz.
159 Rupture of Intestine from a Fall on the Floor, with Coexistent Umbilical Hernia. (Berstungsruptur des Darmes.) A. Ebner.
160 Differentiation of Hematomyelia and Injury of Brachial Plexus. (Fall von hoher Plexuszerreissung.) O. Kalb.

July, LXXXIX, Nos. 1-3, pp. 1-395.

161 *Fractures in Tabes. (Knochenbrüche bei Tabes.) E. W. Baum.
162 Mechanism of Fractures of Skull. (Schädelbrüche.) A. Krogius.
163 The Recurrent Laryngeal Nerve and Goiter Operations. (N. recurrens u. Kropfoperationen.) R. Stierlin.
164 Morphology of Intrathoracic Goiters. (Kröpfe.) T. v. Vecsehely.
165 *Mammary Carcinoma and Its Operative Permanent Cure. J. Finsterer.
166 Treatment of Injuries and Fistulas of Ureters. M. A. Wassiljew.
167 Funicular Umbilical Hernia and Exstrophy of Bladder, etc. (Nabelschnurbruch und Bauchblasengenitalspalte.) A. Rittershaus.
168 *Present Status of Spinal Anesthesia. (Spinalanalgesie.) M. Strauss.
169 Appendicitis in Children. (App. im Kindesalter.) W. Neuberg.
170 Megacolon Cured by Enteroanastomosis. (Hirschsprungsche Krankheit.) Germer.

145. Postoperative Lung Complications.—Wolff reviews the experiences at the Königsberg clinic with various forms of general and local anesthesia. The smallest percentage of pulmonary complications occurred after chloroform anesthesia. They were observed in 5.3 per cent. of 1,806 operations under ether; in 9.8 per cent. of 744 operations under ether plus chloroform, but only in 4.5 per cent. of 532 operations under chloroform alone. Even with the abdominal operations—which presented the largest proportion of pulmonary complications—the proportion with chloroform was only 4 per cent. and 1.2 per cent. with other operations. Omitting all of the 192 cases in which pulmonary complications were observed for which other causes might possibly have been responsible, leaves 58 operations with pulmonary complications under ether, or 3.2 per cent.; 36 ether plus chloroform cases with 4.6 per cent., and 10 chloroform cases with 1.9 per cent. pulmonary complications, but no pulmonary embolism, abscess, gangrene or pleurisy. In 88 operations performed under spinal anesthesia, bronchitis or pneumonia was observed in 2 out of the 17 abdominal operations, and embolic infarct and fatal pulmonary embolism occurred in 2 other cases. In the 78 operations under local anesthesia, bronchitis or pneumonia occurred in 2 cases after an operation for incarcerated hernia, and in another case a thrombus developed in an artery of the right lower lobe after an abdominal operation. In 4 other cases bronchitis, aspiration, pneumonia or pulmonary embolism occurred. Postoperative pneumonia was responsible for 1 per cent. of the total mortality, and it proved fatal in 32 out of the 61 cases in which it occurred; that is, in 54 per cent. The heart was found seriously affected in 7 of the 44 cases in which autopsy was allowed, including one patient with pulmonary embolism. Most of the postoperative fatalities occurred between the ages of 45 and 65. Pneumonia followed in 4.91 per cent. of the total abdominal operations. The predominance of the right lung was also remarkable. Preceding bronchial or lung affections were noted in 31 per cent. of the total 192 cases, but in 104 cases the anesthesia was evidently directly responsible, the general average of pulmonary complications being thus 3.4 per cent. in the total 3,082 patients. Wolff remarks that a combination of factors is probably responsible for these postoperative complications, chilling of the body within or without or both, aspiration of secretions and injury from the anesthetic and from displacement of organs by raising parts of the body.

149. Total Extirpation of Patella.—Kudlek describes a case of sarcoma of the patella in which the patient has been completely cured for two years since the patella was removed. The functioning and endurance of the knee have proved absolutely normal, as he shows in illustrations of the patient, a man of 25.

150. Injuries of Diaphragm.—Iselin devotes 66 pages to a report of 8 operations for injury or hernia of the diaphragm, with summaries of other recent operative cases, bringing the subject down to date with respect to diagnosis, treatment, etc. Eight of the 24 cases terminated in recovery, and in 8 cases there was chronic, incarcerated hernia of the diaphragm.

151. Ligation of the Large Abdominal Vessels.—Offergeld describes extensive research on dogs, cats and rabbits with respect to the effects of ligating the aorta, the vena cava and the iliac and the hypogastric arteries on both sides with their corresponding veins. The results of his experimental work coincide with what has been observed in the clinic, but suggest that the results of ligation of an abdominal vessel depend almost exclusively on the condition of the heart at the time. An extra amount of work is thrown on the heart, and if it is capable of adapting itself to this extra task all is well, but if not the result is fatal. In some of the animals that survived the experiments the heart was extremely hypertrophied, with great prominence of the muscular bundles, a typical *Balkenherz*. In those that succumbed, the evidences of cardiac insufficiency were unmistakable, both from the symptoms during life and the postmortem findings. Ligation of the aorta, forcing the blood to take a roundabout route through much smaller vessels, makes such demands on the heart that it should never be attempted unless the circulatory organs are entirely sound, as, for instance, possibly in postpartum hemorrhage, but never in case of aneurism or septic or constitutional affections. The paralysis that may occur after ligation of the aorta and of the iliac artery is peripheral. Unilateral ligation of the common iliac artery is not dangerous, and should be preferred to ligation of the femoral artery which was followed by gangrene in almost 60 per cent. of the cases on record. Ligation of the internal iliac artery, even on both sides, is not dangerous. Collateral circulation is soon established, as happens also after extraperitoneal ligation of the external iliac vein. In all cases the acute increase in the blood pressure, followed by its gradual subsidence to normal, is the criterion for the successful outcome of the operation, regardless of whether large or small vessels or several small ones have been ligated.

156. Results of Treatment of Tetanus.—Fricker's experience suggests that early and severe disturbances in swallowing are a bad omen, also that energetic local treatment and sedatives are required to supplement serum treatment. He thinks that there is evidently an individual predisposition to tetanus in some cases, the toxin being anchored exceptionally rapidly and firmly by the nerve tissue.

158. Gastroenterostomy for Non-malignant Stomach Affections.—Schulz summarizes the history of this subject and relates the experiences at Hochenegg's clinic at Vienna, a total of 56 cases in which a sufficient interval has elapsed since the operation to judge of the permanent results. In 64 per cent. the patients have been entirely and in 24 per cent. almost entirely relieved of all disturbances by the intervention. The operation not only put an end to the disturbances from the stenosis, but was followed by the healing of the ulcer. The special technic followed is commended as best corresponding

to normal conditions and preventing the vicious circle, while it favors healing of the ulcer and seems best adapted to prevent peptic ulceration.

161. **Fractures in Tabes.**—Baum presents evidence to prove that the bones in tabes do not differ from normal bones in composition or in nourishment, but that the early hypotonicity of the muscles has a marked effect in favoring fracture. The analgesia also favors trauma, while the trauma may pass unobserved, and even the fracture itself may not be recognized at the time. It may pass unobserved until some comparatively insignificant event calls attention to it, and this event is frequently assumed to have been the cause. Fractures in tabes heal as readily as under normal conditions and should be treated under general surgical principles. Extension is useful, but it is better to renounce ideal adaptation of the stumps rather than to expose the patient to decubitus and to overstretching of the ligaments by too vigorous traction. Especial care is necessary in fractures of joints to arrest the arthropathy. The details of a dozen cases are given to show the fine permanent results obtained by treatment along these lines. If the focus suppurates and if the patient is elderly or much debilitated, amputation is preferred to conservative measures in case of an extensive process, as it is sure to be followed by necrosis. In one case amputation was done on account of an infected fracture of the tibia; the wound healed normally. In another case, the stumps of the femur were sawed off and a peg of bone inserted in the marrow, with normal healing and restoration of function. When the general health allows and complications can be averted, a good outcome to the operation can be counted on. The bone reacts even to implantation of dead bone, with a lively regenerative process. Pseudarthrosis in a tabetic, causing severe functional disturbance, should not be allowed to go unrelieved if the general condition is favorable. The chief danger is from the frequent suppurative affection of the kidneys—a focus of infection that may entail suppuration at the fracture.

165. **Mammary Cancer.**—Finsterer analyzes the experiences at Hochenegg's clinic with 606 cases of mammary cancer. The proportion of permanent cures has risen from 12.5 per cent. before 1903 to 24.64 per cent. Greater attention is being paid to removal of extensive areas of skin and to evacuation of the supraclavicular fossa. Cures were realized in some cases in which the supraclavicular glands were already involved.

168. **Present Status of Spinal Anesthesia.**—Strauss concludes from Friedrich's experience at Greifswald and from review of the literature that tropacocain is at present the least dangerous anesthetic to use for spinal analgesia, although even tropacocain has a number of by-effects and after-effects to its discredit. Addition of suprarenal extract seems to do more harm than good. Anesthesia by the spinal route lasts an hour on the average. The method is advantageous, he asserts, for elderly, decrepit patients, also in case of non-tuberculous lung affections and in diabetes. It is contraindicated for children under 15 and in nervous or mental disease, affections of the spinal cord and septic conditions. Especial care is necessary in case of tuberculous processes, in syphilis, in kidney affections and in advanced arteriosclerosis. The method has many advantages, but it is never absolutely free from danger. He warns against a dose of more than 0.06 gm. of tropacocain. The records show 46 deaths in a total of 22,717 spinal anesthesias. Omitting 19 cases in which the anesthetic can not be regarded as the responsible factor, the mortality was 1 to 2,524. Tropacocain has a record of 5 deaths, 12 collapses and 3 paralyses in 7,059 anesthesias.

Münchener medizinische Wochenschrift.

August 6, LIV, No. 32 pp. 1569-1616.

171 *Results and Dangers of Alcohol Injections in Neuritis and Neuralgia. Fis hier.
172 Eczema from Continuous Bath. (Bei Dauerbildern beobachtetes Ekzem.) Küster.
173 Technic for Bacteriologic Examination of Blood. (Blutuntersuchung.) Wiens.
174 Bladder Tumors in Workers on Aniline. (Blasengeschwülste bei Anilinarbeitern.) L. Seyberth.
175 Action of "Scarlet Oil" in Inducing Proliferation of Epithelium Simulating Carcinomatous Growth. (Wirkungsweise der "Scharlachöl"-Injektionen.) O. Wyss.
176 Congenital Syphilis of Small Intestine. (Dünndarmsyph.) E. Fraenkel.
177 Hematin in Human Bile. (Vorkommen von Blutfarbstoff oder Haematin in Galle.) O. Schumm.
178 Streptococcus Conjunctivitis After Measles, Simulating Diphtheria. G. Schumacher.
179 New Apparatus to Determine Viscosity of Blood. (Bestimmung der Viskosität des Blutes.) W. Hess.
180 House Epidemic of Generalized Vaccinia. (Vaccina generalisata.) F. Danziger.
181 Improved Diaphragm for Fluoroscopy of Stomach. (Durchleuchtungsblende.) B. Wiesner and F. Dessauer.
182 *Radical Operation on Extremely Large Hernia by Replacement of Testicle in Abdominal Cavity. (Rad.-Op. der Hernine permagnae mit Reposition des Hodens in der Bauchhöhle.) O. Bernhard.
183 Blood Findings in the Nervous. (Blutbefunde bei Nervösen.) A. Bretschneider.
184 Treatment of Delirium Tremens. Aufrecht.

August 13, No. 33, pp. 1617-1664.

185 *Indications for Interrupting Pregnancy in the Mentally Unbalanced. (Schwangerschaftsunterbrechung bei Geisteskranken.) Alzheimer.
186 *Importance of Typhoid Bacilli Carriers in Institutions. (Typhusbazillenträger in Irrenanstalten.) A. Nieter.
187 Spinal Anesthesia. (Lumbalanaesthesie.) A. Ach.
188 Transmission of a Spindle Celled Sarcoma on Leg from Dog to Dog. (Uebertragung des, etc., beim Hunde.) A. Sticker.
189 Electric Registration of Mechanical Processes. (Saitengalvanometer und Saitenelektrometer.) M. Cremer.
190 Abdominal Contusion. (Kontusionsverletzungen des Bauches.) T. Voeckler.
191 Multiple Brain Tumors Simulating Focus in Internal Capsule. (Hirntumoren.) Seggel.
192 Acute Citrophen Poisoning. (Zitrophenvergiftung.) J. Heyde.
193 Comparative Value of Guaiac and Spectroscope Tests for Occult Blood. (Nachweis von Blut in den Fäzes.) M. Fraenkel.

August 20, No. 34, pp. 1665-1712

194 Serum Anaphylaxis. (Serum-Ueberempfindlichkeit.) R. Otto.
195 Hysterical Sweating. (Hysterische Schweisse.) H. Curschmann.
196 *Relations Between Pneumonia and Gout. (Pneumonie u Gicht.) E. Ebstein.
197 Tests of Dissolving of Capsules in Stomach. (Kapsulae geloduratae.) Schlecht.
198 Congenital Umbilical Hernia. (Ectopia viscerum.) Ringel.
199 *Favorable Influence of Iodin and Mercury on Tuberculous Processes in Upper Air Passages. (Jod.- u. Quecksilberbehandlung der Tub. in Nase, Schlund und Kehlkopf.) K. Grünberg.
200 Infant Mortality. (Statistik der Säuglingsmortalitat.) H. Risel.
201 Poisoning from Cheese Simulating Atropin Poisoning. (Vergiftung durch Käse.) Federschmaldt.
202 Simplified Extension Technic. Vereinfachtes Extensionsverfahren.) A. Hofmann.

171. **Alcohol Injections in Neuritis and Neuralgia.**—THE JOURNAL has mentioned from time to time the claims put forth as to the benefit from deep injections of alcohol in neuritis and neuralgia, especially by Schlösser's technic. In his latest communication this author extolls the special value of the method as a substitute for removal of the Gasserian ganglion, as the toxic degeneration that follows the injection answers practically the same purpose as gasserectomy. Fischler's experience confirms the possibility of subsequent toxic degeneration of the nerve, and teaches that on this account the method should not be applied to motor or mixed nerves except as a last resort. He treated 12 patients with severe sciatica by local injection of alcohol, and 8 were either entirely or nearly cured, but 1 patient developed complete paralysis of the peroneus nerve which persisted complete for nine months and then gradually subsided in the course of the next three months. Erb had a similar experience in 3 cases in his private practice. In 3 out of these 4 cases of toxic degeneration, the symptoms gradually retrogressed, but the return of the neuralgia kept pace with this. With all its advantages, therefore, the method has its drawbacks. The experiences with trigeminal neuralgia were all favorable. The 6 patients with long rebellious supraorbital and infraorbital neuralgia were cured. The injections gave no relief in a case of amputation neuroma, but the results might have been better if the injections had been continued longer.

182. **Radical Operation for Extremely Large Hernia.**—Bernhard for ten years has been treating very large hernias by replacing the testicle on that side in the abdominal cavity, which enables him to close up the opening entirely. The results have been eminently satisfactory. The method is especially adapted for elderly men. For younger patients there is a possibility that the functioning of the testicle may be interfered with, but he cites testimony to prove that a testicle in the abdomen is liable to continue its functioning unimpaired, while it is better protected against external injury and inflammation than in its natural position, or when subjected to the strain of the inguinal canal. None of his ten patients on whom the opera-

tion has been performed has had any inconvenience from the testicle in the abdomen, although all are workingmen.

185. **Indications for Interruption of Pregnancy in Mental Affections.**—Alzheimer discusses the various types of mental disease as affecting the outcome of a pregnancy, urging that an expert psychiatrist should be summoned in consultation to determine whether the symptoms observed are the beginning of a severe mental affection or are merely insignificant manifestations of a transient condition. As a rule, the nervous and mental symptoms are much overestimated. In respect to pregnancy in an idiot or imbecile the laws of heredity are still so imperfectly comprehended that they should not be accepted as a guide for the physician's conduct of the case.

186. **Thyroid Bacilli Carriers.**—Nieter relates a number of examples to sustain his plea for more careful examination of healthy persons in the environment in case of typhoid. His remarks refer mostly to institutional epidemics, especially in insane asylums. The frequent discovery of typhoid bacilli in pure cultures in the bile and in calculi in persons affected with gallstones suggests that typhoid or paratyphoid bacilli may play an important part in the etiology of biliary lithiasis. In one instance both typhoid and paratyphoid bacilli were discovered in the ejecta of a patient presenting no signs of either typhoid or paratyphoid fever. Thirteen bacilli carriers were discovered in a certain German insane asylum, all women.

196. **Relations Between Pneumonia and Gout.**—Ebstein adds another to the two cases on record in which a severe attack of gout followed pneumonia in a person who had previously shown a slight predisposition to gout. Pneumonia affecting gouty individuals is generally distinguished by an afebrile course, but otherwise has no special characteristics.

199. **Potassium Iodid and Mercury in Treatment of Tuberculosis of the Upper Air Passages.**—Grünberg reports cases to sustain his assertions in regard to the frequently beneficial action of potassium iodid and of mercury on primary tuberculous processes in the nose and throat. Syphilis could be positively excluded in his cases, and he thinks that some of those that have been published as syphilitic affections of the upper air passages simulating tuberculosis and cured by potassium iodid or mercury were in reality purely tuberculous processes.

Virchow's Archiv, Berlin.

June, CLXXXVIII, No. 3, pp. 395-578. Last indexed August 10, p. 530.

203 Pathology of Submaxillary Gland. (Unterkieferspeicheldrüse.) C. Davidsohn.
204 Research on Rabies. (Tollwut.) C. Fermi.
205 Deposits of Metallic Dust in the Liver. (Hämatogene Siderosis der Leber.) Arnoldsche Granulalehre.) G. Ganabercff.
206 Changes in Blood Capillaries of Liver. Importance for Histogenesis of Cirrhosis. (Leberzirrhose.) R. Rössle.
207 Contracted Kidney without Arteriosclerosis. (Schrumpfniere ohne Art.) E. Roth.
208 Importance of Disturbances in Embryonal Development in Origin of Kidney Cysts. (Entwicklungsstörungen Zysten in der Niere.) E. L. Thompson.
209 *Muscular Connection Between Auricle and Ventricle in Normal Heart and in Adams-Stokes Symptom-Complex. (Hissche Bündel.) Fahr.

July, CLXXXIX, No. 1, pp. 1-152.

210 A Chondro-Myxosarcoma of Right Pleura. O. Busse.
211 Case of Fetal Chondrodystrophy with Asymmetry of Skull. E. Langenbach.
212 Weigert's Stains for Elastin. (Elastinfarbstoffe.) L. Spiegel.
213 Gallop Rhythm and Hemlsystole. J. Trautwein.
214 "Telegraph Wire" Fibers in Perineural Connective Tissue and in Vessel Walls. (Neue Art von Fasern im Bindegewebe.) H. Dürck.

August, No. 2, pp. 153-336.

215 *Epithelial Forms of Malignant Struma. T. Langhans. Commenced in No. 1.
216 Pathologic Anatomy of Traumatic Deafness. (Traum. Taubheit.) P. Manasse.
217 Regeneration of Nerves. E. Neumann.
218 *Punctate Horny Pharyngitis. (Pharyngitis keratosa punctata.) W. K. Wyssokowicz.
219 Experimental Research on Synthesis of Fat in Degenerated Cells. (Fettsynthese in stark veränderten Zellen.) C. Wellmann.

209. **The Bundle of His in the Normal and Pathologic Heart.**—Fahr's article contains colored plates of the muscular connection between the auricle and the ventricle in the fetus and in the normal adult, in various cases of Stokes-Adams affection and in tumors. They appear to confirm the assumptions in regard to the myogenic theory of the heart action and that the muscular elements are responsible for the coordinated contractions of the auricles and ventricles.

215. **Epithelial Forms of Malignant Struma.**—Langhans' long and profusely illustrated article describes several groups of cases of malignant struma and cites various differentiating features.

218. **Punctate Horny Pharyngitis.**—Wyssokowicz reports six cases of pharyngitis distinguished by the development of small, hard, tenaciously adherent, shiny deposits on the mucosa of the pharynx. The affection begins insidiously and runs an afebrile, chronic course without signs of local inflammation. The microscope revealed local hyperproduction of epithelium, with horny degeneration, and almost pure cultures of a peculiar bacillus, which he calls the *Bacillus keratosus*. Lemon juice was the only measure which proved effectual in treatment. Siebenmann has reported good results from local application of alcohol. In one of his patients the affection persisted for eight years.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

SOCIEDAD DE BENEFICENCIA de la Capitol. Memoria del Ano 1906. Paper. Pp. 405. Buenos Aires, S. A.: Emilio Spinelli, 1907.

FEBRE AMARELLA Estudo Clinico Pelo Dr. Zeferino Meirelles. Paper. Pp. 260. Rio de Janeiro: H. Garnier, 71 Rua do Ouvidor, 1907.

THE TEACHINGS OF THOMAS HENRY HUXLEY. By Irving Wilson Voorhees, M.S., M.D. Cloth. Pp. 85. New York: Broadway Pub. Co., 1907.

HEREDITY AND SELECTIONS IN SOCIOLOGY. By George Chatterton-Hill. Cloth. Pp. 569. Price, $4.50. London: Adam and Charles Black; New York: The Macmillan Co., 1907.

THE USE OF SUPRARENAL GLANDS IN THE PHYSIOLOGICAL TESTING OF PLANTS. By Albert C. Crawford, Pharmacologist, Drug-plant Investigations. Bulletin No. 112. Issued Aug. 10, 1907. Paper. Pp. 32. Washington: Government Printing Office, 1907.

ROENTGEN RAYS AND ELECTRO-THERAPEUTICS, With Chapters on Radium and Phototherapy. by Mihran Krikor Kassabian, M.D., Director of the Roentgen Ray Laboratory of Philadelphia Hospital, etc. Cloth. Pp. 543. Price, $3.50. Philadelphia and London: J. B. Lippincott Co., 1907.

PROGRESSIVE MEDICINE. Vol. IX, No. 3. A Quarterly Digest of the Advances, Discoveries and Improvements in the Medical and Surgical Sciences. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia, assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-patient Medical Department of the Jefferson Medical College Hospital. Sept. 1, 1907. Paper. Pp. 290. Price, $6.00 per annum. Philadelphia: Lea Bros. & Co., 1907.

NEW PATENTS.

Recent patents of interest to physicians:

864063. Spool adhesive plaster. Perry S. Bauer, Chicago.
864078. Air-purifying apparatus. G. C. Clements and J. M. Hostler, Chicago.
863985. Medicine cabinet. John Haller, Chillicothe, Ohio.
863933. Fumigator. John B. McLaren, Chicago.
863805. Illuminating apparatus for microscopes. Harvey N. Ott, Buffalo.
864035. Artificial limb. Theodore S. Sandberg, Seattle, Wash.
864445. Respirator. E. N. Casey and H. E. Rathbun, Providence, R. I.
864456. Atomizer. Thomas A. De Vilbiss, Toledo, Ohio.
864528. Vibrator or massage instrument. F. B. Fuchs, Newark, N. J.
864219. Manufacture of easily-emulsifiable fatty matter. Emil Wormer, Berlin, Germany.
865005. Molding casein and producing same. Leon H. Barnett, Bellows Falls, Vt.
865006. Combined ambulance stretcher and hospital chair. C. E. Benninger and F. L. Thomas, Sterling, Ill.
864769. Ophthalmometer. Edward P. Brewer, Norwich, Conn.
865021. Atomizer. Frank C. Dorment, Detroit.
865022. Atomizer. Frank C. Dorment, Detroit.
864843. Vibrator. Herbert G. Hill, Chicago.
865254. Surgical or medical bandage. Paul F. W. Kappmeier, Altkloster, Germany.
864978. Obtaining dry gluten. Louis A. Morel, Meaux, France.
864908. Therapeutic lung testing device. F. W. Nebelthau, Minneapolis.
865061. Disinfecting apparatus. Wm. H. Rose, Baltimore.
865025. Stretcher. Nathan D. Baker, Thackery, Ohio.
865571. Curette. Herschel E. Currey, Baker City, Ohio.
865514. Sick and invalid carriage. Paul Mullenmeister, Aix-la-Chapelle, Germany.
865541. Folding invalid chair. George H. Storm, New York.
866180. Combined applicator and dilator. Cutler T. Ball, Decatur, Ill.
866610. Massage vibrator. Walter J. Bell, Los Angeles, Cal.
866019. Rotary vibratory massage brush. Jacob Handel, New York.
866309. Surgeon's operating table. Sam G. Scanlan, Madison, Wis.
866400. Apparatus for deodorizing closets. Arthur D. Stevens, Jacksonville, Fla.